THE FUTURE OF ARMS CONTROL

HEARINGS

BEFORE THE

SUBCOMMITTEE ON ARMS CONTROL, OCEANS, INTERNATIONAL OPERATIONS AND ENVIRONMENT

OF THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

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ON

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THE FUTURE OF ARMS CONTROL

WEDNESDAY, JANUARY 20, 1982

UNITED STATES SENATE,
SUBCOMMITTEE ON ARMS CONTROL, OCEANS,
INTERNATIONAL OPERATIONS AND ENVIRONMENT OF THE
COMMITTEE ON FOREIGN RELATIONS,
San Francisco, Calif.

The subcommittee met, pursuant to notice, at 10 a.m., in the Norse Auditorium, 275 Hayes Street, San Francisco, Calif., Hon. Larry Pressler (chairman of the subcommittee) presiding.

Present: Senators Pressler, Pell, and Cranston.

Senator PRESSLER. I call to order this meeting of the Subcommittee on Arms Control of the Senate Foreign Relations Committee.

I want to thank those who are in attendance. I particularly want to thank Senator Cranston and Senator Pell for their efforts.

Let me say that arms control is something that I feel is very important that we take to the country, so to speak. It's very unusual for the Foreign Relations Committee to hold field hearings, and this is an experiment.

We will be holding hearings in San Francisco, Los Angeles, and Sioux Falls, and later perhaps in one or two other cities, to find out what members of labor, business, academia, and the general public think about arms control issues.

I am very hopeful that we can have initiatives in arms control; but I'm also very much a realist about some of the problems in the world.

I just returned from Poland where I saw firsthand the repression that human beings practice on one another.

Also let me say that I am one of those who, as chairman of the Arms Control Subcommittee, has emphasized that perhaps Ronald Reagan will be able to provide unique leadership in the area of arms control.

As Richard Nixon could go to China because he was trusted by the more conservative elements of American foreign policy, so also could Ronald Reagan negotiate an arms control treaty that may well be acceptable to many elements of the American domestic community as well as to the international community.

So I think we should approach arms control on a bipartisan basis. I think we should realize the terrific expenditures that are being made by other countries of the world and by the United States in terms of the arms race, and what this means in terms of resources diverted from other areas.

I hope that we can find a key and find some new ideas through these hearings. I hope we can make the public more aware that we do want the arms control process to go forward and that the talks can continue and expand.

We also must be realistic. We have had a hearing in this subcommittee on the issue of the yellow rain, the possibility of the Soviet Union's using chemicals in Afghanistan and Cambodia. ABC News concluded that, indeed, in some areas of Afghanistan and Cambodia yellow rain had been used by the Soviets. If true, that is a violation of a treaty to which they and we are signators in the 1970's; consequently, the whole question of verification in the arms control area is of great importance.

But those are things we are here to listen to. Let me say that I enjoy very much working with both Senator Pell and Senator Cranston. I also enjoy very much working with Senator Hayakawa, who has an opening statement which he intended to deliver today but he could not be here. I shall read his statement later.

But I first think it's appropriate to call on Senator Cranston since this is his home State, and, although I'm chairing the hearing, I shall ask Senator Cranston to introduce the witnesses. He is the ranking minority member of the subcommittee.

And Senator Pell, whom we're honored to have here, is the senior member of the Foreign Relations Committee, and he may well have a comment or two about the precedent of holding field hearings of the committee.

With that, I shall turn it over to my friend, Senator Cranston.

Senator CRANSTON. Thank you very much, Larry. I welcome you to the great State of California. I appreciate your cooperating with us to have these hearings here.

I will be going, as you know, with you to your State, South Dakota, Monday for hearings there.

I want also to welcome Claiborne Pell, an outstanding member of this committee, and a long-time friend of mine, to our State. He, with Larry, has done very important work on the subject that has brought us together today.

I welcome each of you, and I welcome our witnesses. I'm going to make a slightly longer statement than I usually would in opening this hearing with my colleagues because of the very grave importance that I place upon the matters that we are going to be considering.

I have long believed that there can be no more important issue for any of us than the question of how to achieve a balanced, verifiable reduction in the superpowers' nuclear arsenals, and how ultimately to eliminate the terribly destructive forces altogether.

Arms control issues raise troubling questions of ethics, among other things. Is our theory of how to deter nuclear war by assuring mutual assured destruction—the acronym for which is MAD—in the event of nuclear attack, an ethical means of defense?

Do we have any realistic alternatives under present circumstances; is it ethical and necessary to perfect and produce neutron bombs which kill more people but destroy less property than other nuclear weapons.

These are only a few among many legitimate and troublesome questions about which very serious people disagree. And serious people disagree, too, as to whether it would serve our national interest to seek to negotiate a fair and verifiable freeze on nuclear weapons production by the superpowers, the United States and the Soviet Union, to be followed by mutual and sizable reduction of present U.S. and Soviet nuclear stockpiles.

Many feel we must modernize and add to our nuclear arsenal to insure that we have comparable capabilities with the Soviet Union before such a freeze on reduction can and should occur.

Others believe deeply that while some imbalances may exist, the sum total of our respective nuclear arsenals is so enormous, even obscene, that minor differences are of negligible importance to our security and that an immediate freeze and an early reduction would best serve our long-term interest.

We are privileged to have in California some of the most thoughtful, skilled thinkers of our Nation on the subject of nuclear arms control. They will be helping us in these hearings.

We need to know how and why we got where we now are, if we are to escape dilemma and help what many fear is a drift toward nuclear confrontation.

The Soviet Union has 7,000 strategic nuclear weapons which could land among us, most of them within minutes, utterly destroying every American city and town with over 5,000 people.

The Soviets have 240 cities with populations greater than 100,000. Just two American submarines could utterly destroy each and every one of those Soviet cities and thus destroy the Soviet Union as a functioning society, within a matter of minutes.

We have at least 15 such submarines on patrol at any given time. We also have 1,053 intercontinental nuclear missiles based in the United States which can reach Soviet targets, and hundreds of bomber aircraft, plus thousands of nuclear weapons based in Europe.

Of course, the Soviets have overkill, too, and they are aggressively adding to their arsenals, as are we.

I went to Moscow last September with a fellow committee member, Republican Senator Charles Mathias of Maryland, to discuss arms control with Soviet leaders. We met with the Soviet military chief of staff, Marshall Nikolai Ogarkov, the foreign minister, Andre Gromyko and with other aides to Brezhnev.

We told the Soviets of the shock and dismay that certain of there actions caused in the West—their invasion of sovereign Afghanistan, their part in the harsh pressures in Poland, their support for aggression in Southeast Asia, their mistreatment of Soviet Jews, and their unrelenting military buildup.

But we also shared with the Soviets our personal view that nothing can be more important than arms control, that we need to reach agreements in this vital area despite the many disagreements we have in other areas. The Soviets said to us that they do not believe in a successful nuclear "first strike." They told us they do not believe that nuclear war can be limited. They declared no one can win a nuclear war. If this is indeed what they believe, we should be able to negotiate an end to the deadly, dangerous and incredibly costly arms race.

How, then, do we move forward? I worked for 3 years in the Senate as a leader of the bipartisan group trying to inform key Senators and to produce a majority in support of the SALT II Treaty, but events made Senate ratification unattainable.

The initiative taken by thousands of Californians to place a nuclear freeze referendum on the 1982 State ballot represents to me a desire to express the public will that the arms control effort must be has-

tended and intensified to get a freeze in place from which to achieve reductions.

I do not usually become involved in State referendums, but I feel compelled by the importance of this issue to say, yes, I, too, believe we need to negotiate a balanced, verifiable freeze and, indeed, reductions on United States and Soviet nuclear arsenals.

I understand that one can reasonably argue over the details. Will the United States be able to remedy perceived imbalances in the European theater? Will replacement of aging and dangerous nuclear systems with more modern, secure systems be permitted?

These and other questions come to mind, but these are issues for United States and Soviet negotiators to resolve.

On the fundamental principle of a negotiated, balanced verifiable nuclear freeze, my own view is clear: we need it and we need it as soon as possible.

So I personally will vote for the freeze referendum. [Applause.]

I'm glad that that evidences a great deal of support for the referendum.

Others who feel that certain specific steps must be taken before they would feel comfortable with the freeze will share their views with us today. I look forward to their thoughts as well.

This is an issue where serious people can disagree on tactics while we all share the same goal, making this a more safe, secure planet for our children and for children the world over.

Senator PELL. I'd like to congratulate Chairman Pressler and Senator Cranston on this hearing and on all the work of the Arms Control Subcommittee. I was chairman of that subcommittee for some time before and believe that it's achieving its potential now that is truly wonderful and I'm grateful to them both for their work.

Also, as a matter of precedent, they're breaking new ground, because in the past the Committee on Foreign Relations has not held hearings outside of Washington. I have been in the Senate 21 years and I do not recall hearings outside of Washington in that period of time.

I think it's a good idea not to do it as a general rule, but when you have a problem of tremendous importance, superhuman importance, like arms control, then I think the message should be carried to our people through the length and breadth of our land that maintaining peace with the Soviet Union, avoiding a nuclear war must rank as the paramount American foreign policy interest.

I remember General Jones, the Chairman of the Joint Chiefs of Staff, told me during his testimony last November that an all out nuclear war "would be the greatest catastrophy in history by many orders of magnitude."

Here is the Chairman of the Joint Chiefs of Staff saying this, not just people like ourselves who are interested in peace in a more general way.

And I think we must do all we can to avoid such a catastrophe. The situation today reminds me of a sight I saw last summer in Narragansett Bay when two large sailing vessels were on a collision course prior to a race and we shouted at them but neither helmsman would go off course. And what happened was the inevitable, one vessel hit the other and demasted it. Both were damaged, and I see the same

type of collision course we seem to be embarked on now with the Soviet Union.

At this juncture, there are some positive signs that should be encouraged. The administration appears committed to continue talking with the Soviets about arms control in Europe. They have not knocked out these arms control talks as part of the sanctions against the Soviet Union, but I think we need to be careful when it comes to believing the challenge to achieve real arms control can be met only by sitting down to talks.

It takes more; there must be a commitment to achieving real limitations and reductions through compromise and the administration must be willing to take positions which can lead to agreement and be willing to defend such agreements when the opposition produces outrageous criticism and arguments.

The last administration had this commitment to realistic arms control, but was unable to develop the support for its achievements.

This administration, which includes many of the former critics, probably can convince Congress to approve if reasonable agreements are achieved. And here I think we must look at what the alternatives are to arms control.

In the next 5 years, according to recent press reports, the Pentagon analysts believe we will spend $2¼ trillion to pay for the Reagan defense programs over the next 5 years.

I must say many of us are very worried. The administration has put so much emphasis on buying new and incredibly expensive hardware, very often without the skilled manpower to operate it; and with arms control, I believe we could put our defensive emphasis where it should be and avoid very wasteful expenditures as well as bringing our country off its present collision course, vis-a-vis, the Soviet Union.

It's too late in the nuclear age to be fooling around. We have to devise a system that works, and we know we can if we have the will. [Applause.]

Senator PRESSLER. Prior to calling on our first witness, I would like to read a statement on Senator Hayakawa's behalf. He is unable to be here. His statement is as follows:

I am sorry I could not attend this hearing due to previous commitments. However, I do want to applaud Senator Pressler for holding hearings on this most pressing international issue—arms control.

Senator Pressler has often said that Ronald Reagan is the President who can bring about an effective arms control agreement. I fully concur and believe his speech last November shows that he is indeed serious about reducing the threat of nuclear war which hangs over all mankind.

We have heard about the anti-nuclear demonstrations which have been staged in many parts of Europe as well as in the United States. I understand the concerns of these people, for the prospect of a nuclear war is intolerable.

However, in order to achieve a bilateral nuclear arms freeze, we must take the facts as they are and not as we wish them to be. I believe President Carter wanted to demonstrate our deep commitment to arms control to the Soviets.

He canceled or delayed the production of several strategic weapons during his few years in office. And what happened? The Soviets continued with their adventurism culminating with the invasion of Afghanistan.

After that event, President Carter asked for an increase in defense spending which included plans for an MX missile system as well as other strategic systems.

I believe he was sincere in trying a new approach with the Soviets, but the Russians do not have a history of conceding or giving away anything even upon agreement.

Recent indications of the use of chemical warfare by the Soviets in Laos, Cambodia, and perhaps Afghanistan are further evidence that the Soviets are not guided by humanitarian concerns.

Unfortunately, unilateral disarmament leads to tyranny by our enemies. Therefore we must be prepared to face the very serious and real questions which are posed by the threat of nuclear war. If we do not, we will increase the level of insecurity, and thereby increase the possibility of a nuclear war.

So we must press forward on negotiations with the Soviets on both nuclear weapons in Europe and all strategic weapons.

I am pleased with the new acronym "START." It is important that we work for arms reductions, not just limitations.

And the President's proposal about medium-range nuclear weapons in Europe has offered the Soviet Union the chance to reduce spending on nuclear weapons. I sincerely hope that they do not totally reject this offer.

In the meantime, we must continue with the modernization of our strategic nuclear forces—not to build up our armaments, but to promote meaningful negotiations. It is strange logic, I know, building weapon systems to reduce weapon systems but history has shown that this may be the only logic that works.

The burden now lies with the Soviets. There is not one American who likes spending our resources on sophisticated weaponry and we would gladly pour our money elsewhere. But we must be prepared to face the Soviets eye to eye that we may truly reduce the threat of world peace.

And may I thank Senator Hayakawa for his statement. It's a custom in official hearings to hear statements from all Senators prior to those of the witnesses.

At this point, our first witness is going to be Archbishop John Quinn who—I'm going to have Senator Cranston introduce the witnesses. [Applause.]

Let me say that last week I had the privilege in Poland of meeting with Archbishop Glemp, who is a graduate of the Lateran University, and I noticed in Archbishop Quinn's biography, he is a graduate of Gregorian. Those are the two most prestigious Universities of the Vatican, I've learned.

I will call on Senator Cranston, who is very familiar with the witnesses this morning, to make the appropriate remarks.

Senator CRANSTON. Thank you very much, Larry.

Let me say before proceeding, that many groups wanted to testify. Time constraints have made it necessary to limit the testimony today to a diverse group of people who are able to contribute from diverse viewpoints to our considerations. However, other organizations do have an opportunity to submit written testimony for the record.

I would particularly like to cite an organization called Concerned Local Elected Officials that has prepared testimony for this hearing, and I would like now to ask unanimous consent of fellow committee members that the testimony of that group and of all others be made part of the record at an appropriate point and that the record be held open for a brief time for that purpose.

If there is no objection, it is so ordered.

It is now my great pleasure to introduce a man who has been so outstandingly effective in his statements of conscience reflecting his careful thought and his grave concerns about the state of nuclear anarchy, and the arms race in which we now find ourselves.

He is, as you know, the head of the Archdiocese of north California, his major address in October calling for an arms freeze, for fasting and prayer to reverse the arms race has provided a beacon of hope and leadership to people not only in his Archdiocese, but all over the world.

Archbishop John Quinn.

STATEMENT OF ARCHBISHOP JOHN R. QUINN, SAN FRANCISCO, CALIF.

Archbishop QUINN. Thank you. Thank you, Senator Cranston, for inviting me to give the testimony this morning.

And at the outset, Senator Pressler, I would like to commend you for holding these hearings and to express my appreciation for the opportunity to address the problem of the nuclear arms race. The hearings are a commendable idea because the threat of nuclear devastation touches all of us. And we need public discussion on how to prevent that threat from ever becoming a reality.

Personally, I regard the invitation to testify as a moral imperative since I am convinced that the church, from a centuries' long tradition of moral analysis of war, has an irreplaceable contribution to make to this debate. And because I am equally convinced that the church cannot be passive or silent in the face of the most dangerous public policy issue of our time, the threat of nuclear war.

The public examination of this threat has several dimensions. My perspective on the question is that of a Catholic Bishop, and I therefore focus on the moral religious elements of the nuclear peril, aware, of course, that these are imbedded in the more technical aspects of the question.

A continuing and consistent message of moral urgency has come from all the recent Popes on the nuclear arms race. Pius the 12th, John the 23d and Paul the VI all addressed the problem in solemn and strong terms.

Pope John Paul the II has already made two pilgrimages of peace, one to the United Nations in 1979 and one to Hiroshima in 1981. The visit to Hiroshima obviously had great symbolic value. But it was also the opportunity for a major substantive statement.

The Holy Father, surely conscious that he had a worldwide audience for his address to scientists at the U.N. University, posed the nuclear question as one of moral choice. The future of humanity, he said, depends as never before on our collective moral choices.

Then he went on to specify the meaning of these choices. He said in the past it was possible to destroy a village, a town, a region, even a country. Now it is the whole planet that has come under threat. This fact should finally compel everyone to face a basic moral consideration. From now on, it is only through a conscious choice and through a deliberate policy that humanity can survive.

I believe that conscious choices must be made at several levels of our society if we are to develop a policy to reverse the arms race, reduce the threat of nuclear war and redirect the resources presently used for weapons to the needs of humanity and of the poor at home and abroad. A series of choices must be made, personal, professional, and policy choices. Without attempting to be comprehensive, I wish to focus on three choices which we face as a country and indicate how we as citizens can help direct these choices.

And so, before addressing the specific policy choices we face, I would like to sketch the moral framework which contemporary Catholic teaching uses to assess the nuclear arms race. There are essentially four principles at the heart of the moral analysis.

The first, the nuclear arms race must be condemned as dangerous, wasteful and as creating an unstable basis for preserving peace.

The second principle, the prohibition of any use of nuclear weapons is the primary moral imperative of the moment.

The third principle, the policy of deterrence can be tolerated only on the condition that the deterrence posture is accompanied at the same time by serious efforts toward arms control and disarmament.

And the fourth principle, it is imperative to proceed quickly and with consistency toward substantial reductions in the arms race.

In this testimony, Senator, I would like to highlight the second principle mentioned above; namely, the moral imperative of avoiding any use of nuclear weapons.

During the course of the nuclear age, a presumption against the use of even tactical nuclear weapons has been forged in the policy process. I believe that that presumption against use needs to be reinforced in every way possible, and that the step from the use of conventional weapons to any use of nuclear weapons should be regarded as a qualitatively new step and should be absolutely resisted on both political and moral grounds.

The three choices that I will discuss should all be seen in the light of this principle of non-use. Each choice is directed by the determination to place the use of nuclear weapons beyond the pale of policy decisions.

A theme which permeates all our choices on nuclear policy is the relationship of technology and politics. John Paul the II has pointed this out as a fundamental characteristic of our society today. In areas as diverse as medical research and the arms race, the Pope has warned of the consequences of a technology which is beyond political and moral control. And which can thereby turn against the very person who created it.

The nuclear arms race has been a continuing story of weapons technology outpacing efforts at arms control. The most significant example from recent history was the decision to exclude multiple independently targetable reentry vehicles, or MIRV's, from the SALT I negotiations. The decision from the United States side seemed to be the product of internal bureaucratic pressures combined with a judgment that the Soviets were uninterested in a prohibition on MIRV's.

At the time the United States made the decision to exclude MIRV's from the negotiations, we were clearly ahead of the Soviet Union in MIRV technology. The 1970's, however, witnessed deployment of MIRV's by the United States followed then by Soviet deployment.

The result was that Soviet advances in warhead accuracy, combined with the ability to deploy MIRV's on the already large Soviet missiles has produced the present threat to United States land-based ICBM's which we now seek to offset with the MX missile.

In brief, the failure to ban MIRV's has not produced the window of vulnerability which is presently being used as the rationale for the new phase of escalation of the strategic arms race.

But ironically, the chosen instrument to provide the fix for the window of vulnerability contains its own dangers for the arms race. The MX is defined as a missile with hard-target-kill capability. Placing it in a vulnerable silo inevitably conveys the impression, even if

that is not our intention, that we are now thinking of our nuclear forces in first strike terms.

Richard Betts, an arms control specialist, writing recently in the Washington Quarterly, evaluated the MIRV deployment in the following terms: If effective arms limitation had been feasible, confidence in U.S. security might ultimately have been stronger in a MIRVless world. MIRV's permit a small number of missiles launched in a first strike to destroy a large number of the enemy's missiles whereas single-warhead missiles reverse that ratio.

Thus, equivalence in fixed-base ballistic missile launchers favors the side striking first in a MIRVed world and the side striking second in a MIRVless world.

Betts' judgment confirms that of other analysts, that the deployment of MIRV's by both superpowers has again tilted the dynamic of the arms race in an unstable first-strike direction.

The decision to deploy MIRV's is now history and while one can hope for arms control agreements that would reverse the use of MIRV's on both sides, the chances for such an agreement are not very great.

The MX deployment is still ahead of us. It has been debated for months and a decision has been made by the President to deploy. In spite of extensive public discussion which has surrounded the mode of deployment for the MX, insufficient debate and examination has been accorded the character of the weapon itself and its impact on the dynamic of the arms race.

We should learn from the experience with the MIRV's that some technological advances are far more dangerous than others. The decision to deploy the MX intensifies the earlier detrimental impact of deploying MIRV's. It is the kind of policy choice with moral consequences that is making use of nuclear weapons more likely to which Pope John Paul's words about conscious choices should be applied.

I would hope, Senator, that the MX decision could be reversed. The need of the moment is not a technological quick-fix for the window of vulnerability. The need of the moment is substantial steps in the direction of reducing the vulnerability of humanity itself due to the present dangerous pace of the arms race. [Applause.]

The second choice which should be considered relates to our strategic doctrine. I suggest raising for serious debate the U.S. refusal to adhere to a no-first-use pledge regarding nuclear weapons.

I am aware that the U.S. purpose in refusing such a pledge is tied to prevailing NATO strategy and to the asymmetrical configuration of military forces in Central Europe.

I am also aware that well-intentioned proposals like the one I am making can be counterproductive if they are not carefully assessed. Hence, what I suggest is a rigorous, explicit analysis and debate in the United States and with our NATO allies about a no-first-use pledge.

The purpose of the pledge would be to place one more restraint on any inclination to use nuclear weapons. I hope that such a proposal is not rejected as unthinkable when the really unthinkable idea is a nuclear exchange in Central Europe. [Applause.]

I welcome the opening of the arms limitation talks on intermediate range missiles, but I believe we need more than business as usual diplomacy to bring these talks to a successful result.

Something more than business as usual is contained in the third choice we face. I support the criteria repeatedly elaborated by the Holy See regarding arms control and disarmament, namely that such policies be carried out bilaterally, simultaneously with equal reductions on both sides and backed up by genuine and workable safeguards.

While adhering to these criteria, it is still possible to consider a number of independent initiatives which we could take in the interest of moving toward serious arms reductions. Such initiatives differ completely from unilateral disarmament.

They should involve two or three specific steps which a solid consensus of arms control experts would verify as not seriously endangering our security. These steps could be taken for a specified time, for example, delaying deployment of the MX.

If reciprocal measures were not forthcoming from the Soviet Union, we would no longer be bound by the initiatives. If such steps, however, did produce reciprocity, we would have an example of one side leading the way to deescalation rather than the historical pattern of each side provoking escalation.

I have used Pope John Paul's theme of moral choice throughout this testimony. In conclusion, I would like to use another theme which he has stressed in his 1982 World Day of Peace message, and that is the relationship of public opinion to policy decisions. The Pope said "peace cannot be built by the power of rulers alone. Peace can be firmly constructed only if it corresponds to the resolute determination of all people of goodwill. [Applause.]

"Rulers must be supported and enlightened by public opinion that encourages them or, where necessary, expresses disapproval."

Two conclusions for the American situation can be drawn from these words. First, our recent experience with SALT II illustrates the relevance of the Holy Father's emphasis on public opinion.

The extremely complex and technical questions which surround arms control policies are inevitably decided by a small segment of a democratic policy, elected officials and expert advisers; but an atmosphere of public opinion grows up around any major policy decision and this atmosphere influences policy decisions, even if it does not determine them.

We did not have a solid informed constituency in support of SALT II. We had selective support among elite groups and a vague general support for arms reduction which was often diluted by general suspicion of dealing with the Soviet Union.

A much more intensive task of public education on the nuclear question is needed if conscious choices are to be made to reverse the arms race.

Second, the church enters the arms debate in her capacity as a teacher of morality and a shaper of conscience. Among Catholics specifically, and in a more general way among all peoples, the church sees its role in terms of building a responsible and balanced psychology of peace which can in turn lead to a public policy of authentic peace.

The questions we must debate and decide as a nation are complex and the work of analyzing them is a continuing never-ending process. The church in the United States has expressed its determination through several voices in the past year to be part of the ongoing analysis which will hopefully produce the conscious moral choice for peace called for by John Paul at Hiroshima. [Applause.]

Senator PRESSLER. Archbishop, we thank you for your statement and each Senator will have time for about two or three questions. And let me say that I had the privilege of meeting with His Holiness the Pope 2 weeks ago and know how strongly he feels on a personal basis on these matters.

The Jewish-Christian tradition gave the Western nations a common moral heritage. In many areas, the Communists seem to have rejected that and replaced it with an ideology that, in effect, says that the means, however harsh, justify the end, the victory of communism. And this dilemma has raised difficult questions.

A question that we in Government must face is: Can the Soviets be trusted to adhere to international agreements? For example, the yellow rain issue and the failure to cooperate on the investigation. Can we find ways to bring moral influence on the U.S.S.R. Do you have some comments in this general area? Let me again say how much I appreciate your statement.

Archbishop QUINN. Thank you, Senator. Yes, I recognize that the very different ideologies that characterize Western nations and the Soviet Union constitutes a fundamental difficulty for all our hopes.

At the same time, I believe that there is a certain common ground. For example, I can't believe that the Soviet Union would want to make all these tremendous outlays of money in the building up of the arms race and live constantly under the threat of a nuclear exchange any more than any other human being would want to do that. I think there is a common ground in that area alone if we could—and I think that's where today we need more than a business-as-usual kind of diplomacy.

I think, personally it is my personal opinion, and it may be one that is uninformed, but I express it for what it is worth, but I think that we need a great deal of personal contact at the highest levels, for example, between our President and Mr. Brezhnev, so that men can meet together and talk as human beings—not in contradiction to the ordinary diplomatic levels, but beyond them, first as human beings and then perhaps there could be some change in the tone at the diplomatic and other levels. There might be a chain reaction all down the line if people could come together as people and have a human understanding of the problems both share and the fears both share.

Senator PRESSLER. Thank you very much. I shall yield to Senator Cranston and Senator Pell.

Senator CRANSTON. I want to thank you, Archbishop, for an absolutely outstanding statement that reflects your deep convictions about the moral imperatives involved in this issue and also your understanding and the obvious time you have devoted to the archean and intricate technicalities of the arms race and these different awesome, destructive weapons systems. I'd appreciate it if you would expand on your views regarding the appropriate role of the church in such public policy issues as the nuclear arms race, particularly in the context of the criticism that certain Christian Fundamentalist groups have received for their involvement in social issues.

Archbishop QUINN. Senator, I could expand a great deal on that, but I will try to be concise. First of all, we in this country rightfully, and I support thoroughly, entirely, and totally, absolutely, the principle of the separation of church and state.

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But we make a great mistake when we use the principle of the separation of church and state as a means of separating the church from society. The church has a role in society which is not exhausted by its relationship with the state. Society is a much wider concept, a much wider reality than the state; and if we are to have freedom of religion. then true freedom of religion must mean the freedom of expression, the freedom of religious expression and the freedom of the church to exercise its role and its function in society to express its beliefs and to express its moral teaching publicly and to its adherents and to others. So, I think on that score that would be one thing that should be considered.

Another thing that has to be considered is if the church does not speak on social issues or on moral questions of public policy, then that implies that religion has no meaning for life, for real life. And I would have to say that that would be contrary to my understanding of religion because religion, as I understand it, should be the fundamental factor influencing life.

Senator CRANSTON. I thank you for a very eloquent response to my question. What steps do you think we can take to make more citizens aware and to involve more citizens in the life and death issues of the arms race? I'm sometimes told, "don't speak out on this issue, I don't want to hear about it." Plainly it has to be spoken out about in order to arouse people.

How do we enlist the populace in this effort to convince our Government and governments elsewhere that we must come to grips with this issue?

Archbishop QUINN. Senator, I would say that you are speaking about the need for education about the realities of this question. I believe that the media has already embarked on a very fine effort at public education about what is involved in the nuclear war.

The television and the press and the radio have done some very fine things in public education, but you also, in your position, I think, have a tremendous opportunity to educate people about the implications of the nuclear arms race.

Certainly schools and universities also have these opportunities. I think there are manifold opportunities and they must be used.

Senator CRANSTON. Thank you again for what you're doing to that end.

I now pass the microphone to Senator Claiborne Pell.

Senator PELL. Thank you. I remember the time when the Vietnam war seemed to be continuing with no signs of ceasing and then I think the public hearings of this committee showing that peace was not a dirty word, and that to negotiate was not a dirty concept, helped turn opinion around, but what really helped was the massive outpouring of American citizens coming to Washington. [Applause.]

Archbishop, I was wondering if you could enlarge a little bit on the Pope's remark about public opinion and expressions of disapproval. Would you agree with me that to express disapproval when you're getting into life and death issues of international import, this does not mean just writing a letter to an editor, coming down to a meeting, but it means when the time comes, if there's no change of course, if we continue on a collision course, that there could be masses of hundreds

of thousands of citizens coming to Washington to express vigorously their views.

I was wondering if you felt that the slight breakdown or substantial breakdown of law and order that that involves is more than balanced by the merit of the cause in which they are embarked and how would you handle that from an ecclesiastical viewpoint?

Archbishop QUINN. Senator, public demonstrations and public expression of views is a basic aspect of our American way of life. [Applause.]

I could certainly find nothing wrong with large numbers of people going to Washington to demonstrate. I would certainly not approve of anything that involved violence or those kinds of things, but public demonstrations are a basic part of our American way of life.

Senator PELL. Following that thought up, and I would strongly feel the same way, what can we do to encourage public demonstrations on the Soviet side in Eastern Europe? Because we have a problem there.

We know they exist in Western Europe, they have very effective demonstrations, but it take two to tango. How do we encourage the peace movement in the Soviet Union?

Archbishop QUINN. May I venture to say that it may be that the absence of demonstrations in the Soviet Union is perhaps one of the most powerful demonstrations there is because it shows that they can't have demonstrations if they want to.

Senator PELL. And also, I think the revival of religion, I remember being in charge of a Foreign Service post behind the iron curtain when the curtain fell, and suddenly there was an outpouring of people going to church, parades and things tripled, quadrupled, and so forth.

Senator PRESSLER. Thank you very much.

We shall call the next witness, Dr. Sidney Drell.

I will call upon Senator Cranston to give some of his biographical background. And let me say, we have something of a time constraint—we should be through by 12:30 or 1.

We want to hear each witness. Their entire statements will be placed in the record, but any summarizing would be appreciated. Also the audience would help us if they would save all their applause until the end because we're running into a time problem with airplanes and so forth.

It is a very important subject. We do want to hear the views of as many as possible.

Senator Cranston, do you have a comment here?

Senator CRANSTON. I briefly want to welcome Dr. Sidney Drell, a long-time adviser of mine on arms control and he's been very helpful to me. He's an adviser also to the Senate Intelligence Committee. We welcome you.

[Dr. Drell's biographical sketch follows:]

BIOGRAPHICAL SKETCH OF SIDNEY D. DRELL

PRESENT POSITION

Lewis M. Terman, Professor, Deputy Director, and Executive Head, Theoretical Physics, Stanford Linear Accelerator Center, Stanford University, Stanford, California.

PRESENT ACTIVITIES

Chairman, High Energy Physics Advisory Panel, U.S. Department of Energy (formerly AEC and ERDA); Consultant, Senate Select Committee on Intelli-

gence; Consultant, Office of Science and Technology Policy; Consultant, Office of Technology Assessment, U.S. Congress; Consultant, Los Alamos Scientific Laboratory; Member, Board of Directors, The Arms Control Association, Washington, D.C.; Member, JASON Division, SRI International (formerly Institute for Defense Analyses), Former Member of JASON Steering Committee; Member, Board of Trustees Institute for Advanced Study, Princeton, New Jersey; Member, Board of Governors, Weizmann Institute of Science, Rehovot, Israel; Member, Advisory Committee, MIT Physics Department; Member, Board of Directors, "Annual Reviews, Inc."; and Member, Council on Foreign Relations, New York.

PROFESSIONAL AND HONORARY SOCIETIES

American Physical Society (Fellow), Phi Beta Kappa; National Academy of Sciences, Sigma XI; and American Academy of Arts and Sciences, Phi Kappa Phi.

AWARDS AND HONORS

Ernest Orlando Lawrence Memorial Award—1972—for research in Theoretical Physics (Atomic Energy Commission); University of Illinois Alumni Award for Distinguished Service in Engineering—1973 Guggenheim Fellowship—1961–62 and 1971–72; Richtmyer Memorial Lecturer to the American Association of Physics Teachers, San Francisco, California—1978; Leo Szilard Award for Physics in the Public Interest—1980—presented by the Forum on Physics and Science of the American Physical Society; and D.Sc. (Honorary), University of Illinois, Chicago Circle—1981.

RECENT POSITIONS AND ACTIVITIES

1978–80, Member, Energy Research Advisory Board, U.S. Department of Energy; 1969–76, Member, Editorial Council, "Annals of Physics"; 1966–70, President's Science Advisory Committee; 1960–73, Office of Science and Technology, Executive Office of the President, Member (or Chairman) of PSAC Panels on national security problems; 1974–76, Defense Science Board Task Force; Spring 1975, Schrodinger Visiting Professor, University of Vienna, Austria; Spring 1971, DuPont Lecturer, University of Pennsylvania; Fall 1962, 1970, Visiting Professor and Loeb Lecturer, Harvard University; Winter 1965, AVCO Lecturer, Cornell University; 1971–74, Member, Physics Visiting Committee, Harvard University; 1967–68, Member, National Accelerator Laboratory Physics Advisory Committee; 1966–69, Member, Advisory Council, Physics Department, Princeton University, Chairman 1967–69); Spring 1979, Visiting Fellow, All Souls College, Oxford University; 1969–1981, Consultant, U.S. Arms Control and Disarmament Agency; and 1973–1981, Consultant, National Security Council.

PERSONAL DATA

Born September 13, 1926—Atlantic City, New Jersey; Married (Harriet J. Stainback, Minter City, Mississippi); and Children (Daniel W., born 1953; Persis S., born 1955; Joanna H., born 1965).

EDUCATION

1946—A.B., Princeton University; 1947—M.A., University of Illinois; and 1949—Ph. D., University of Illinois.

SPECIAL FIELDS

Theoretical Physics: Elementary Particle Physics and Quantum Theory.

PUBLICATIONS

Three books and numerous papers in theoretical physics.

STATEMENT OF DR. SIDNEY D. DRELL, DEPUTY DIRECTOR, STANFORD LINEAR ACCELERATOR CENTER, STANFORD, CALIF.

Dr. DRELL. Thank you. Thank you for this opportunity to testify on this most vital issue of the future of arms control.

Mr. Chairman, may I begin by saying how important it is to hold public hearings such as today's. The better we understand the nature and severity of the threat of our nuclear weapons, the better we can meet the challenge to control them and thereby increase our chances for survival.

A determination to succeed in meeting this challenge must be a sacred moral commitment to future generations yet unborn.

As President John Kennedy said in 1963 in discussing the problems of securing world peace, "control of arms is a mission that we undertake particularly for our children and our grandchildren. They have no lobby in Washington."

In my testimony I will describe three general principles based on the technical realities of nuclear weapons that should guide our decisions concerning arms and arms control.

I will also make a specific proposal, which if negotiated by the United States and the Soviet Union, would lead to major and balanced reductions in the numbers of nuclear warheads deployed on both the long-range strategic and intermediate-range systems. The promising features of this proposal are its flexibility and its simplicity.

As to the nature of the threat, let me just say nuclear weapons are weapons of mass destruction. A 1-megaton explosion, that is 1 million tons of TNT equivalent, exploded over the bay area could cause 1 to 2 million casualties; and this is the effect of just 1 megaton of the more than 10,000 megatons poised today in the world's nuclear arsenals.

An all-out nuclear conflict involving a large fraction of the approximately 50,000 nuclear bombs currently deployed by the United States and the Soviet Union would shatter the entire fabric of our society and of the civilization built over centuries by the human spirit and human genius.

More than 12 years have gone by since the United States and the Soviet Union faced up to the ghastly nuclear weapons threat and initiated the process of formal negotiations designed to limit the buildup of nuclear arms and to reduce the nuclear threat.

These negotiations have been both difficult and valuable, but the record of accomplishments over the past 12 years is surely disappointing. During this period, and despite intensive negotiations, the nuclear forces of both the United States and the Soviet Union have continued to improve in their quality and to increase in numbers.

As a result of the advances in weapons technology, we are now entering an even more dangerous era in which confidence in mutual deterrence has eroded.

In its place we hear more and more of usable nuclear weapons, of limited nuclear war-fighting and war winning. Such visions of nuclear

war fighting and winning are phantoms that are both dangerous and technically unsound. [Applause.]

The challenge to begin making timely effective progress toward removing the threat of nuclear war is the most important challenge in international relations.

There are three general principles that I consider as essential for guiding our defense and our negotiating policies toward such a goal. They are based on the technical realities of nuclear weapons.

Principle one, nuclear weapons are fundamentally different from nonnuclear ones. They have a long and deadly radioactive memory. They are weapons of mass destruction and the possibility of using such weapons raises for all of us fundamental ethical and moral issues. Nuclear war would be so great a human disaster and so great a physical catastrophe for our environment and ecosphere that the unknowns of a nuclear conflict dwarf the predictable or the known.

This point has been stressed by all official Government and congressional studies in recent years including that very good objective and sober report in 1979 by the Congressional Office of Technology Assessment on "The Effects of Nuclear War."

Second guiding principle, the sole purpose of nuclear weapons in today's world and for as long as they are deployed must be to deter nuclear war. No other purpose should be assigned to nuclear weapons. They are not a substitute for our maintaining adequate conventional military forces for meeting vital national security goals and commitments.

Furthermore, I conclude on technical grounds alone that there is no effective defense against the almost total mutual annihilation and devastation that would result from a full-scale nuclear war.

In words that Lord Mountbatten wrote just before his assassination:

> As a military man who has given half a century of active service, I say in all sincerity that the nuclear arms race has no military purpose. Wars cannot be fought with nuclear weapons. Their existence only adds to our perils because of the illusions they have generated.

My third principle, arms control is an essential part of our national security. Thus far, we have had no effective controls on offensive nuclear weaponry and it is clear that each step forward in the arms race toward more and improved weapons has lessened our security.

If we are to reverse this trend, it will be necessary to understand the arms control impact of new weapons before deciding whether to deploy them.

The importance of the arms control factor was understood and played an essential role in the ABM debate more than a decade ago. This led to our negotiating the very important and effective existing SALT I treaties severely limiting the deployment of ballistic misile defenses, or ABM systems.

I hope that treaty will survive the decade and particularly this year's review. This is an important instance of activity in arms control coming up this year.

By way of contrast, we lost an important opportunity for arms control, as Archbishop Quinn so accurately described, by the decision to press ahead with the technology of multiple independently targetable warheads or MIRVs without first making a serious effort to avoid their extensive deployment.

We can now indeed see the dollar and strategic costs of that lost opportunity in the form of the MX program. The MX is designed to be the U.S. response to the growing threat to our land-based Minuteman force posed by the highly accurate and reliable MIRVed ICBM's now being deployed by the Soviet Union. The MX is a symbol of the failure of arms control.

In accord with these three guiding principles, our negotiating efforts at the upcoming strategic arms reduction talks should aim for a treaty that would do the following four things:

First, the treaty should enhance stability based on a balance of highly survivable and secure deterrent forces.

Second, the treaty should initiate significant, timely, and verifiable reductions in the nuclear forces and destructive potential of both nations.

Third, the treaty should be conceptually simple so as to be readily explained and comprehended in the broad public debate.

And fourth, it should be highly flexible, allowing the two superpowers to implement the negotiated provisions by means of selective reductions in accord with their very different technological and bureaucratic styles. While these reductions must be equitable, they may, at the same time, be asymmetric.

In order for us to achieve these four goals, I believe it is essential to limit and reduce the number of deployed nuclear warheads or reentry vehicles more effectively and directly than we have in the past.

It is clear from the SALT II experience that numerical limits on launchers alone cannot provide an adequate basis for continuing successful negotiations. Beyond launchers alone, we must get at direct limits on the warheads.

On page 22 of my prepared statement I give a specific proposal. It is possible to meet the four goals of enhanced stability, reductions, simplicity, and flexibility by a means of a limitation on the combined total of the number of launchers plus warheads or reentry vehicles [RV's].

A counting scheme of launchers plus RV's is simple to explain and comprehend. It is a simple number. With reference to strategic missiles and long-range bombers as defined in the SALT negotiations thus far, each ICBM, each submarine-launched ballistic missile, each bomber counts as a launcher. In addition, each warhead on an ICBM and an SLBM, each bomb and air-launched Cruise missile on a bomber counts as an RV or reentry vehicle.

In this counting scheme the L+RV ceiling can be set so as to require substantial reductions. Since each nation can choose which of its systems to remove in order to meet an agreed ceiling, this scheme is a highly flexible one.

Finally, the scheme of counting launchers plus RV's can improve stability because it makes very costly the deployment of large numbers of those particular systems that both the United States and the Soviet Union view as most threatening to each other's forces. These are the massive ICBM MIRV's, the SS–18's of the Soviet Union, each with 10 warheads and a weight in the scheme of 11; the SS–19's with the weight of 7, with their six warheads; the U.S. MX with the weight also of 11, with its 10 warheads; and the heavily loaded bombers with 20 air-launched cruise missiles and the weight of 21.

This should make the formula attractive to both the United States and the Soviet Union since it provides strong incentive for preferential reductions of those systems which constitute first-strike threats without the need of specifying rigid quotas.

Verification of such a provision would be by rules in force at this time, with each missile being counted as if it is deployed with the maximum number of warheads that it has been observed to be tested with. That is a provision of SALT II.

To give an illustrative example, a quota of 8,000 for the launchers and warheads for strategic systems, together with SALT II restrictions that were already negotiated on modernization of land-based ICBM's, is a simple and powerful combination for effective arms control.

The limit 8,000 represents a reduction by a factor of two on the limits which SALT II allows, that is a factor of two reductions in launchers and RV's. In this sense. it is a major cut from present limits.

The SALT II restriction in modernizing land-based ICBM's, which permits each country only one new type and forbids rebasing of the large SS–18's, is a significant and verifiable step toward a freeze on nuclear weapons. It has a practical advantage of turning on a freeze gradually, so that it is, in practice, not sensitive to the actual date on which it's initiated.

In table II of my written testimony I show one possible way of implementing such a scheme, which I won't go through here. One can make the approach even more valuable and comprehensive by limiting not only the strategic systems, but all threatening systems whose ranges exceed 1,000 miles as I propose on page 26 of my written testimony.

The reasons for this are the following: Advances in weapons technology are making it increasingly difficult to identify a category of strategic nuclear weapons for negotiating purposes as distinct from the many other widely deployed nuclear forces.

The problem of the Backfire bomber, the Soviet TU–26M bomber, has been a particularly vexing one for SALT II. Similarly, there is little political or military logic in seeking constraints on intermediate-range nuclear forces, such as the Soviet SS–20, which we are discussing in Geneva now, together with the U.S. ground-launched cruise missiles and Pershings, without accompanying constraints on the deployment of the intercontinental systems at the same time. This was recognized in the NATO decision of December 1979.

The counting scheme of launchers plus warheads provides the natural framework for combining systems into a single negotiating framework. A limit on the total launchers plus warheads on all nuclear forces of range in excess of 1,000 miles would have the logic of including the most threatening, destabilizing systems of both sides, no matter where they are deployed.

In particular, I discuss in some detail in my written statement a limit of 9,000 for the launchers plus warheads for all nuclear forces whose range exceeds 1,000 miles. This limit would cut in half not only our strategic force deployments, but also the planned or existing intermediate-range forces in Europe.

I believe this proposal to limit all such systems under a ceiling of 9,000 is an overall balanced one, but I want to emphasize, as one looks

at any proposal, there is little sense in attempting to fine tune a nuclear balance at these levels of destruction.

There is, however, both urgency and importance to removing the nuclear sword of Damocles that so ominously threatens our survival.

In summary then, a proposal to limit total of launchers plus warheads is a promising approach in our striving for progress in arms control in the 1980's. The specific number limit of 9,000 on all forces of range greater than 1,000 miles coupled with SALT II restrictions on modernization forms an effective arms control proposal with many advantages. It is simple. It is flexible. It will enhance stability by making the deployment of the highly MIRV'd ICBM's so costly.

It is a gradual and verifiable step toward an eventual freeze and a 50-percent reduction from present ceilings on strategic systems.

Were we to negotiate such a treaty and soon, it would be a major advance in arms control relative to the painfully slow progress thus far and would be welcome evidence of our coming of age in meeting the nuclear challenge.

One can, of course, envision bolder and more comprehensive steps than I have described. In my proposal I have limited my goals, not because of any military need for retaining as many as one-half of our presently deployed nuclear weapons, but because I judge this to be a proposal that is practical to negotiate, both domestically and with the Soviet Union.

However, only the negotiations themselves can tell whether it is, in fact, a practical and timely step. To take that step, there must exist a strong political will and commitment by our leaders.

I hope that will be the case. I am encouraged by recent statements by President Reagan and Secretary of State Alexander Haig putting strong emphasis on the importance of arms reduction and expressing our Government's commitment to work toward progress at the negotiating table.

I am also encouraged by the resurgence of informed public interest in nuclear weapons and policy. Public hearings, such as you are holding here today, add importantly to the expansion of that interest. In our society there is no substitute for, nor power equal to, that of a responsible public constituency that is informed in the basic issues of nuclear weapons policy. One need not master all technical details in the arms control debate, but the question of scale must be comprehended.

Neither Americans nor Russians must ever forget the enormity of the destructive power of the nuclear weapons we are dealing with and the scale of human tragedy and suffering if they were ever used.

[Dr. Drell's prepared statement follows:]

PREPARED STATEMENT OF DR. SIDNEY D. DRELL

Thank you for the opportunity to testify on this most vital issue of the future of arms control. Mr. Chairman, may I begin by saying how important it is to hold public hearings such as today's. The better we understand the nature and severity of the threat of our nuclear weapons, the better we can meet the challenge to control them and thereby increase our chances for survival. A determination to succeed in meeting this challenge must be a sacred, moral commitment to future generations yet unborn. As President John Kennedy said in 1963 in discussing the problems of securing world peace: "Control of arms is a mission that we undertake particularly for our children and grandchildren . . . they have no lobby in Washington." [1]

[1] Quoted in *"Kennedy, Khrushchev and the Test Ban,"* Glenn T. Seaborg (University of California Press, 1981).

In my testimony I will describe three general principles based on the technical realities of nuclear weapons that should guide our decisions concerning arms and arms control. I will also make a specific proposal which, if negotiated by the United States and the Soviet Union, would lead to major and balanced reductions in the numbers of nuclear warheads deployed on both the long-range strategic and the intermediate-range systems. The promising features of this proposal are in flexibility and its simplicity.

NATURE OF THE THREAT

Nuclear weapons are weapons of mass destruction. Yields are measured in megatons. One megaton (MT) is equal to one million tons of TNT equivalent, six megatons is equal to all the bombs dropped by all sides in World War II. The destructive potential of one megaton represents a leap by a factor of a million beyond ordinary chemical explosions and by a factor of a hundred beyond the small atom bombs that devastated Hiroshima and Nagasaki. A single megaton warhead on one of the thousands of missiles in today's strategic armories could do the following:

Cause complete destruction of ordinary structures (brick houses and the like) as far away as 3 miles—or within a 30-square-mile area. Minor damage would extend some 13 miles away;

Create potentially lethal winds of speed greater than 100 miles per hour (mph) out to distances of 6 or more miles; i.e., within an area of greater than 100 square miles; wind speeds would exceed 200 mph within a 50-square mile area;

Cause severe second-degree burns on a clear day out to distances of 11 miles; i.e., to anyone exposed in an area of almost 400 square miles.

Cause blindness due to retinal burns to anyone looking at the fireball at distances of 30 to 40 miles; and

Make up to 1,000 square miles of the earth's surface uninhabitable to unsheltered humans for long periods of time due to the prompt radio-active fallout if it is detonated near the surface of the earth.

A one-MT explosion over the Bay Area could cause one to two million casualties; and this is the effect of just one MT of the more than ten thousand MT's poised today in the world's nuclear arsenals.

An all-out nuclear conflict invloving a large fraction of the approximately 50,000 nuclear bombs currently deployed by the U.S. and the Soviet Union would shatter the entire fabric of our society and of the civilization built over centuries by the human spirit and human genius. What we must do today is to face, to understand, and to meet the challenge of avoiding a nuclear holocaust. One hears a lot these days about the "*window of vulnerability.*" The window of vulnerability that concerns me the most in today's nuclear over-armed world is not differences between U.S. and Soviet weapons; it is our vulnerability to nuclear immolation because of the very existence of these weapons.

THE "CONTINUING IMPERATIVE" OF ARMS CONTROL

More than twelve years have gone by since the U.S. and the Soviet Union initiated the process of formal strategic arms negotiations designed to limit the build-up of nuclear arms and to reduce the threat of nuclear war. These negotiations have been both difficult and valuable, resulting in the SALT I treaty severely limiting the deployment of ballistic missile defenses (ABM); the SALT I interim agreement freezing the number of launchers of offensive missile (ICBM's and SLBM's) which formally expired in 1977, but is still being honored; agreed procedures for aiding verification of the treaty provisions by "*national technical means*", i.e., satellite and ground-based sensors; and the Standing Consultative Commission for resolving verification or compliance issues as they arise. A SALT II treaty was also negotiated in 1979 with valuable provisions that extend the agreed means of verification and introduce counting rules and limits on all central strategic offensive missiles. There is a very important and precedent-setting step toward a weapons freeze in SALT II which allows the two countries to introduce only one new type of land-based ICBM. I support the ratification of SALT II not only because of these useful provisions, but because it provides an agreed basis from which to initiate substantive, verifiable, and balanced reductions in the next step of the nuclear arms reductions process.

With or without SALT II, however, the record of accomplishments of the past twelve years is disappointing. During this period, and despite intense negotiations, the nuclear forces of both the United States and the Soviet Union

have continued to improve in quality and to increase in numbers. As a result of advances in weapons technology we are now entering an even more dangerous era in which confidence in mutual deterrence is eroding. In its place we hear more and more of usable nuclear weapons and of limited nuclear war-fighting and war-winning. Such visions of nuclear war-fighting and winning are phantoms that are both dangerous and technically unsound! There are two basic reasons for saying this:

(1) There is a great danger that once the first nuclear weapon is used in anger, the nations involved—with their vital interests at stake—will dig ever deeper into their vast reserves of approximately 50,000 nuclear weapons. There is neither experience nor historical precedent to give much hope that the consequences of such a war will be anything less than total nuclear devastation.

(2) There is no technical basis for any confidence that it will be possible to control the escalation of a limited nuclear conflict. It is in the nature of a command, control, and communication (C^3) system that basic elements of it, such as its "eyes," cannot be hidden from the enemy. It, thus, has vulnerable parts. With one's C^3 system diminished, and threatened, how will it be possible to exercise escalation control?

We face today, with ever increasing urgency, what President Eisenhower called "the continuing imperative" for "disarmament with mutual honor and confidence" in his famous farewell to the nation on his retirement from the presidency in 1960. He spoke, as he reminded us on that occasion, "as one who has witnessed the horror and the lingering sadness of war—as one who knows that another war could utterly destroy this civilization which has been so slowly and painfully built over thousands of years."

THREE GUIDING PRINCIPLES

The challenge to begin making timely progress toward removing the threat of nuclear war is the most important challenge in international relations. There are three general principles that I consider as essential for guiding our defense and our negotiating policies toward such a goal. They are based on the technical realities of nuclear weapons.

(1) Nuclear weapons are fundamentally different from non-nuclear ones. They have a long and deadly radioactive memory. They are weapons of mass destruction, and the possibility of using such weapons raises for all of us fundamental ethical and moral issues. Nuclear war would be so great a human disaster and so great a physical catastrophe for our environment and ecosphere that the unknowns of a nuclear conflict dwarf the known and the predictable. This point has been stressed by all official Government and Congressional studies in recent years. The objective and sober report in 1979 by the Congressional Office of Technology Assessment on "The Effects of Nuclear War," comes to the conclusion that:

"The effects of nuclear war that cannot be calculated are at least as important as those for which calculations are attempted. Moreover even these limited calculations are subject to very large uncertainties. . . . This is particularly true for indirect effects such as deaths resulting from injuries and the unavailability of medical care, or for economic damage resulting from disruption and disorganization rather than direct destruction."

Nuclear war would indeed have no winners.

(2) The sole purpose of nuclear weapons in today's world, and for as long as they are deployed, must be to deter nuclear war. No other purpose should be assigned to nuclear weapons. They are not a substitute for our maintaining adequate conventional military forces for meeting our vital national security goals and commitments. Furthermore, I conclude, on technical grounds alone, that there is no effective defense against the almost total mutual annihilation and devastation that would result from a full-scale nuclear war. In words that Lord Mountbatten wrote[2] just before his assassination:

"As a military man who has given half a century of active service I say in all sincerity that the nuclear arms race has no military purpose. Wars cannot be fought with nuclear weapons. Their existence only adds to our perils because of the illusions which they have generated."

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[2] *"A Military Commander Surveys the Nuclear Arms Race,"* Lord Louis Mountbatten, International Security, vol. 4, No. 3 (Winter 1979/80).

(3) Arms Control is an essential part of our national security. Thus far we have had no effective controls on offensive nuclear weaponry, and it is clear that each step forward in the arms race toward more and improved weapons has lessened our security. If we are to reverse this trend, it will be necessary to understand the arms control impact of new weapons before deciding whether to deploy them. The importance of the arms control factor was understood, and played an essential role, in the ABM debate more than a decade ago. This also led to our negotiating the SALT I treaty that severely limits ABM deployments.[3] By way of contrast, we lost an important opportunity for arms control by the decision to press ahead with the technology of multiple independently targetable warheads, or MIRV's, without first making a serious effort to avoid their extensive deployment.[4] We can now see the dollar and strategic costs of that lost opportunity in the form of the MX program. The MX is designed to be the U.S. response to the growing threat to our land-based Minuteman ICBM force posed by the highly accurate and reliable MIRV'd ICBM's now being deployed by the Soviet Union. The MX is a symbol of the failure of arms control! It is always wise to base strategic forces so they can survive an attack. During times of heightened tension or crisis it is especially important if we are to maintain strategic stability for these forces not to present vulnerable targets that can tempt a preemptive strike. Therefore, I favor sensible efforts to preserve a highly survivable deterrent force. Stability as enhanced if both the United States and the Soviet Union have confidence in that survivability, and our future defense programs should be structured and limited with this goal in mind.

LIMITING WARHEADS, OR RV'S

In accord with these three guiding principles our negotiating efforts at the upcoming Strategic Arms Reduction Talks (START) should aim for a treaty that:

(1) enhances strategic stability based on a balance of highly survivable and secure deterrent forces;

(2) initiates significant, timely, and verifiable reductions in the nuclear forces and destructive potential of both nations;

(3) is conceptually simple so as to be readily explained and comprehended in the broad public debate; and

(4) is highly flexible, allowing the two countries to implement the negotiated provisions by means of selective reductions in accord with their very different technological and bureaucratic styles. While these reductions must be equitable, they may, at the same time, be asymmetric.

In order for us to achieve these four goals, I believe it is essential to limit and reduce the number of deployed nuclear warheads, or reentry vehicles (RV's), more effectively than in the past. The SALT II treaty puts equal limits, category

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[3] This year is the tenth anniversary of the ABM treaty, and its scheduled five-year review conference marks an important occasion for arms control. I see no persuasive reason to consider modifying the ABM treaty in 1982. During the past decade improved radar, interceptor, and computer technologies have enhanced the capabilities of terminal ABM for hard targets. This is particularly true for low-value targets so that the defense can be effective even if there is a significant leakage. Thus, for example, the defense of a single RV missile can be successful if it costs the offense several additional RV's as the price for a successful attack. Research and development toward improved concepts of terminal defense can and should continue in accord with the treaty provisions, but it would be premature to consider modifying its provisions. A major consideration in modifying or terminating the SALT I ABM treaty during the 1980's will be its effect on our allies. In particular, with the technologies in hand and foreseeable for the near future, a nationwide ABM for the defense of cities and industry will be effective only against very low levels of attack. Therefore, if nationwide ABM defenses were deployed by the Soviet Union, their greatest potential effect would be to blunt the limited deterrent threats of China, France, and Great Britain. Such a development, which is likely to occur if the ABM treaty is terminated could hardly be viewed as in U.S. interests. Overall, the treaty remains the most substantive achievement in arms control between the U.S. and the Soviet Union.

[4] Currently we face the possibility of adding a new dimension of competition to the arms race in space. In particular, a large fleet of directed energy (laser or particle beam) battle stations based in space is described as a new option for the intercept of an ICBM attack during launch phase. I see no prospect of deploying an effective defense of this type when the feasibility and costs of such an enterprise are considered—including the number and sizes of such battle stations, the possibilities of the directed energy beams being diverted and confused before causing damage, and the vulnerabilities of the battle stations and their command links. The immediate challenge to be addressed is whether this new dimension of potential arms competition in space can be terminated by negotiation before it builds up momentum. Such negotiations will necessarily be difficult, since it will be necessary to define acceptable limitations on the development of anti-satellite threats against low-orbit communications and reconnaissance satellites as well as against high-altitude systems.

by category and on the aggregate number of launchers. However the treaty, as signed though not ratified, constrains the number of warheads deployed only indirectly by putting a large maximum on the permitted warhead fractionation (14 RV's per SLBM and 10 per ICBM along with a freeze on current force loadings per type of ICBM). It may even be viewed as providing an incentive for developing and deploying large, highly MIRV'd missiles. In fact, this trend is evident in the modern missiles of both the Soviet Union (i.e., the SS–18 with 10 RV's and the SS–19 with 6 RV's) and the U.S. (i.e., the MX with 10 RV's). In particular, the extensive deployment of accurate, highly MIRV'd Soviet ICBM's has caused serious and valid concerns about the vulnerability of the U.S. land-based ICBM force. Furthermore, the treaty limits are perceived by some to be unequal because of the larger size of Soviet ICBM's. This concern has led, on the one hand, to broad opposition to SALT II within the United States and, on the other hand, to very complex provisions that have dulled the over-all impact of the treaty and obscured the recognition that the treaty's provisions are equitably balanced. Evidently, numerical limits on launchers alone cannot provide an adequate basis for continuing successful negotiations.

Another static measure of the effectiveness is the throw-weight (or volume) of the strategic missile and bomber force. A limitation on throw-weight is, in my view, both unnecessary and undesirable. It is unnecessary for two reasons. The first reason is that, given the present level of destructive potential in U.S. and Soviet arsenals, the warhead yields are far less significant measures of effectiveness than are their accuracies, and these will continue to improve toward pinpoint precision with allowed testing and modernization programs. This is especially true for hard-point targeting, where high accuracies, either already achieved or anticipated, are rapidly making throw-weight and megatonnage almost meaningless indicators of strategic efficacy, as illustrated in Figure 1. The second reason is that a counting rule that includes the number of warheads already includes in its count any additional warheads that are deployed in order to exploit a throw-weight advantage. It would also be undesirable to include throw-weight as a parameter in the limits because such a provision would confuse differences in technological style and sophistication between the U.S. and Soviet Union with differences in force effectiveness. For example, the Soviet Union has deployed its "heavy" SS–18 ICBM with 10 warheads, the same number which the U.S. plans for the new MX missile now being developed. Although the throw-weight of the MX is approximately one-half that of the SS–18's, i.e., 7,500 pounds relative to 15,000 pounds, the MX incorporates the most modern technology and can be expected to be a more accurate and reliable weapons system than the SS–18. As a consequence, I exclude throw-weight from any future counting system because it is neither sufficiently flexible nor simple.

Conceptually, the simplest way to satisfy the four goals listed above would be to negotiate equal limits on the total number of RV's deployed by the U.S. and by the Soviet Union. Such a provision would be flexible, allowing each country to meet its requirements of highly survivable forces by choosing the appropriate mix of sea, air, and land basing. A suitably negotiated numerical limit on RV's would lead to substantial force reductions. Verification of such a provision would be accomplished by the same rule currently in force,[5] according to which each missile is counted as if it is deployed with the maximum number of warheads observed during the test flights by that same type of missile.

Aside from these evident advantages, a counting rule that includes only RV's has several disadvantages. The disadvantages include:

It is a sudden and large wrench from the approach to date at SALT of counting launchers (i.e., ICBM silos, SLBM tubes, and strategic bombers)

If no limits are put on them, the number of launchers may increase substantially beyond the SALT ceilings already negotiated.

LIMITING LAUNCHERS PLUS RV'S: "L+RV"

It is possible to avoid the disadvantages indicated for RV limits only and at the same time meet the four goals of enhanced stability, reductions, simplicity, and flexibility by means of a limitation on the combined total of launchers plus RV's, i.e., an "L+RV" limit.[6]

[5] I refer here to the "missile type" and "launcher type" rules negotiated in SALT II. SALT II also provides for setting up procedures to dismantle or destroy systems to meet agreed ceilings.

[6] This idea was first introduced and discussed in collaboration with Kent Wisner ("A New Formula for Nuclear Arms Control," Sidney D. Drell and Kent F. Wisner, International Security, vol. 5, No. 3, Winter 1980/81).

In practical terms there is little difference between a limit on "L+RV" and a limit on RV's alone when comparing highly MIRV'd missiles. This is illustrated in Table I:

TABLE I

System	Number of RV's	"L+RV" count
Soviet SS–18	10	11
Soviet SS–19	6	7
United States MX	10	11
United States Trident I (C4)	8	9

The difference in these two counting rules shows up effectively only in the weight of single RV missiles relative to highly MIRV'd ones. For example, if RV's alone are counted, one Soviet SS–18 with 10 RV's would be given the same weight as 10 single warhead U.S. Minuteman II missiles. However, according to their "L+RV" count two SS–18's with an "L+RV" weight if $2\times11=22$ would be balanced against eleven Minuteman II's, each with an "L+RV" weight of 2. The latter seems to be a more realistic balance of their strategic values. In particular, a single RV missile has no need for a MIRV bus to carry and dispense the individual warheads to different targets. Therefore, it can devote a larger fraction of its throwweight to deliverable megatonnage and should be given a higher weighting, as is assigned by the "L+RV" formula. Furthermore there, is a very much smaller probability that all of a large number of single RV missiles will fail than there is of one highly MIRV'd missile with the same number of warheads. Hence the former deserve greater weight because of this increased insurance against total failure.

An "L+RV" counting scheme is simple to explain and comprehend. With reference to the strategic missiles and long-range bombers as defined in SALT II, each ICBM, SLBM, and bomber, counts as a launcher; each warhead on an ICBM and SLBM, and each bomb or ALCM on a bomber counts as an RV. In this counting scheme the "L+RV" ceiling can be set so as to require substantial reductions. Since each nation can choose which of its systems to remove in order to meet an agreed ceiling, "L+RV" is a highly flexible scheme. Finally, the "L+RV" counting scheme can improve stability because it makes it costly to deploy large numbers of those particular systems that both the U.S. and the Soviet Union view as most threatening in each other's forces: i.e., the massive Soviet SS–18's, each one with an "L+RV" weight of 11, and SS–19's with a weight of 7; and the U.S. MX also with a weight of 11, and the B–52 and B–1B bomber with 20 of the new ALCM's, with a weight of 21. This should make the "L+RV" formula attractive to both the U.S. and the Soviet Union since it provides strong incentive for preferential reductions of these systems which constitute a first-strike threat without the need of specifying selective and rigid quotas.

A PROPOSAL FOR STRATEGIC SYSTEMS: "L+RV"$\leq$*8,000*

An "L+RV" quota of 8,000 for strategic systems "ICBM's, SLBM's, and long-range bombers) together with the SALT II restrictions on the modernization of land-based ICBM's, is a simple and powerful combination for effective arms control. The limit "L+RV"$\leq$8,000 represents a reduction by close to a factor of two relative to the maximum deployments of 2,250 launchers and approximately 13,000 RV's permitted by the SALT II provisions. In this sense it is a major cut from present limits. The SALT II restriction on modernizing land-based ICBM's limits each country to one new type and forbids rebasing or major improvements of the large Soviet SS–18's. It is a significant and verifiable step toward a possible freeze on nuclear weapons. It has the practical advantage of turning on a freeze gradually so that its impact is not sensitive to the actual date on which it is initiated.

Such a proposal can be implemented in many different ways in order to maintain a highly survivable deterrent. One example of a balanced U.S. deployment is given for illustrative purposes in Table II.

TABLE II.—U.S. DEPLOYMENT, "L+RV"≤8,000 FOR STRATEGIC SYSTEMS

System	Launchers	Reentry vehicles	"L+RV"
ICBM's:			
MM–III	244	(x3) 732	976
MM–II	125	(x1) 125	250
MX	42	(x10) 420	462
Subtotal	411	1,277	1,688
SLBM's:			
Trident: 12 SSBN's Trident II missile	288	(x6) 1,728	2,016
Poseidon: 14 SSBN's Trident I missile	224	(x8) 1,792	2,016
Subtotal	512	3,520	4,032
Bombers: B–52/B–1B/Stealth:			
With ALCM's	80	(x20) 1,600	1,680
With bombs	120	(x4) 480	600
Subtotal	200	2,080	2,280
Total	1,123	6,877	8,000

Although the U.S. would still face the problem of "ICBM vulnerability," this threat would be significantly reduced for two reasons. First of all the MIRV'd ICBM force of the United States that could be targeted after the proposed reductions comprises less than 17 percent of the RV count in Table II. In constructing this example we have transferred part of the relative weight of this force to the Trident II force which should achieve comparable capabilities to the ICBM's. Secondly, the size of the threatening Soviet MIRV'd ICBM force would almost certainly be greatly reduced from its present very high level. A very compelling reason for the Soviets to substantially reduce their commitment to a large silo-based MIRV force, which currently comprises approximately one-third of their launcher and three-fourths of their RV totals, would be provided by the threat to their silos by the postulated U.S. deployment of 420 MX and 732 Minutemen III (MM III) RV's, plus the 1,728 Trident II warheads. Presumably the Soviet force mix would still retain a heavier emphasis on land-based ICBM's, but would evolve in the direction of a more balanced mix closer to the U.S. mode of Table II. Under such an assumption it would no longer provide the Soviet Union with the great excess of accurately MIRV'd RV's that marks its current deployment.

This example illustrates the more general fact that fixed, land-based ICBM's have grown vulnerable as a result of the improvements in accuracy and reliability of today's missiles, and this vulnerability is independent of how the missiles are counted. This vulnerability can be viewed as a far more manageable risk at these much lower deployment levels. Alternatively, the U.S. can further reduce the risk by deploying the MX missile at sea on small diesel submarines (the SUM system) which has been shown to be a highly survivable basing by virtue of its mobility and quietness.[7]

Other proposals for reducing ICBM vulnerability are less attractive or technically impractical. The difficulties of a massive multiple protective shelter system for basing the MX, such as proposed during the Carter Administration, have been too well exposed and discussed to repeat here. I agree with President Reagan's decision to scrap that proposal. An ABM defense of MX silos has also been suggested by some. I have studied this problem and, to the best of my technical

[7] *"Testimony on Basing the MX at Sea on Small Submarines: The SUM System,"* Sidney D. Drell, before the Defense and Military Construction Subcommittees of the Senate Appropriations Committee, June 19, 1981; and the secret 1980 JASON Summer Study Technical Report JSR–80–83, September 1980, *"Smallsub Underwater Mobile Basing of ICBM's"* (U). This deployment has the additional advantage of classifying the MX as a sea-based missile. The U.S. would then still be allowed one new ICBM type within the SALT II provisions. This would lead to modernization of the Minuteman II force if warranted at some future time. A balanced deployment along these lines would be configured with more MX's at sea and new single RV ICBM's, and fewer Poseidon boats.

judgment and knowledge, there is no ABM defense concept that can effectively defend the MX in a silo. The problem is that one can exact the price of at most a few attacking RV's per silo with a layered hard-point defense. That however is not good enough because it does not provide a favorable exchange ratio to the defender if the value of the target is as high as an MX with its 10 RV's.[8]

A COMPREHENSIVE PROPOSAL: "L+RV" ≤9,000 FOR ALL NUCLEAR SYSTEMS OF RANGE GREATER THAN 1,000 MILES

Advances in weapons technology are making it increasingly difficult to identify a category of strategic nuclear weapons for negotiating purposes as distinct from the many other widely deployed nuclear forces. The problem of the TU–26M Backfire bomber has been a particularly vexing one for SALT II. Similarly, there is little political or military logic in seeking constraints on intermediate range nuclear systems, such as the Soviet SS–20 IRBM and the planned NATO deployment of the U.S. ground-launched cruise missiles (GLCM's) and Pershing II's, without accompanying constraints on deployments of the intercontinental systems. This was recognized in the NATO decision of December 1979.

The "L+RV" counting scheme provides a natural approach for combining these systems into a single negotiating framework. In particular, a limit on the "L+RV" total of all nuclear forces of range in excess of 1,000 miles would have the logic of including the most threatening/destabilizing systems of both sides no matter where they are deployed. It would also have the following two advantages:

Soviet Backfire bombers would be included in the count without any further controversy as to whether or not they are strategic.

It would be easier to reach a compromise on differences in detail between Soviet and U.S. intermediate range systems. Inevitably, there will be detailed differences between the U.S. and the Soviet Union when they add up the "L+RV" count of the intermediate range nuclear forces depending on where and how some of these forces are based. This is particularly true for the count of aircraft such as the U.S. F–4's and carrier-based A–7E's capable of long-range one-way missions if armed with nuclear bombs. The Soviet Union also has many aircraft in this category. Although these differences may seem significant in the balance of these forces alone, they will have only a marginal effect on the much higher total "L+RV" count.

TABLE III.—"L+RV" COUNT FOR THEATRE NUCLEAR FORCES OF THE UNITED STATES AND THE SOVIET UNION WITH RANGES ≥1,000 MI

	Launchers	Reentry vehicles	"L+RV"
For the United States:			
F–111 (United Kingdom based)	156	(x2) 312	468
F–111A [1]	65	(x5) 325	390
GLCM (planned)	(464)	(x1) 464	[2] 464
Pershing II	(108)	(x1) 108	[2] 108
F–4 [3]	250	(x1) 250	500
Total			1,930
For the Soviet Union:			
TU–26M Backfire	65	(x4) 260	[4] 325
SS–20	(175)	(x3) 525	[5] 525
SS–4	(340)	(x1) 340	[5] 340
SS–5	(40)	(x1) 40	[5] 40
TU–16 Badger, TU–22 Blinder	340	(x2) 680	1,020
Total			2,250

[1] Not included in table II.

[2] A GLCM is counted only as an RV in keeping with the counting rule in table II for the air-launched cruise missiles. So is an IRBM.

[3] This is ½ of the nominal total deployment, based on an assumption that ½ of the F–4's are assigned to nonnuclear missions.

[4] This is a rough number (New York Times, Nov. 22, 1981) counting only the bombers assigned to Soviet long-range air and not to their naval forces. This choice corresponds to not including U.S. domestic-based F–111's.

[5] The IRBM/MRBM count is only of RV's and not of launchers in keeping with the convention adopted for ALCM's and GLCM's. Also only the NATO-based SS–20's are included. This number for the SS–20 is possibly too low since identified nearby "reload" missiles must also be included.

[8] ABM would be a feasible option for defending effectively a lower value target such as an ICBM with one, or only a few, RV's. I do not now support a proposal to modify or to terminate the ABM treaty of SALT I for reasons given in footnote 3 on page 22.

Table III suggests a counting formula of the intermediate range nuclear forces, currently deployed or committed, which indicates a reasonable balance. Some of the individual launcher numbers are very rough and appear only for notional purposes. I propose a limit of: "L+RV" $\leq$9,000 to be applied to all nuclear forces of range in excess of 1,000 miles and with the counting provisos indicated in Table III. An "L+RV" total of about 8,000 for the strategic systems, as discussed earlier, plus 1,000 for the intermediate range systems accommodates roughly one-half the planned totals of each.

GLCM's are counted only as RV's in Table III in keeping with the rule applied to ALCM's for the strategic systems in Table II where the bomber on which they were loaded served as the launcher. It follows that, in an equitable and balanced counting scheme, the intermediate range ballistic missiles (the SS–4 MRBM's the SS–5 IRBM's, and the Pershing II IRBM's) should also be weighted according to their RV count and not as launchers. We have applied that rule in Table III while at the same time counting aircraft as launchers. There is evidently some arbitrariness in the count assigned to the long range theatre nuclear forces but, as noted above, these differences are relatively minor in adding up the total "L+RV" count of 9,000 for all systems of range greater than 1,000 miles. The actual choice of minimum range is also arbitrary but I define 1,000 miles to include the Pershing II launchers. They present a particular threat to Moscow which is no more than five minutes away from their planned launch areas.[9]

The "L+RV" counting formula that I have proposed here shares a feature in common with all counting schemes: a single aspect, if looked at in isolation and in too fine a detail, can appear inequitable. For example, this formula may seem prejudicial against the United States because we would be eliminating more RV's from currently planned deployments than the Soviet Union in order to meet the 9,000 "L+RV" ceiling. On the other hand, the Soviet Union would be eliminating warheads of greater yield, and hence greater megatonnage, as it cut down on large ICBM's in order to avoid a disproportionate concentration of its forces in only a small number of vulnerable launchers. In evaluating such balances and trade-offs it is important to avoid getting enmeshed in a maze of such details alone and thereby losing sight of the decreasing security and the enormity of the danger of a continuing nuclear arms build-up. There is little sense in attempting to fine tune a nuclear balance at these levels of destruction. There is, however, both urgency and importance to removing the nuclear sword of Damocles that so ominously threatens our survival.

SUMMARY

The "L+RV" proposal offers a promising approach in our striving for progress in arms control during the 1980's. A quota of "L+RV" $\leq$ 9,000 on all systems of range greater than 1,000 miles together with the SALT II restrictions on the modernization of land-based ICBM's forms an effective arms control proposal with many advantages: It is simple and flexible and will enhance stability by making the deployment of highly MIRV'd ICBM's so "costly." The proposal is a gradual and verifiable step toward an eventual freeze. It is a 50 percent reduction from present ceilings on strategic systems. Were we to negotiate such a treaty—and soon—it would be a major advance in arms control relative to the painfully slow progress thus far and would be welcome evidence of our coming of age in meeting the nuclear challenge.

One can well envision bolder and more comprehensive steps than I have presented here. In my proposal I have limited my goals not because of any military need for retaining as many as one-half of our presently deployed nuclear weapons, but because I judge this to be a proposal that is practical to negotiate both domestically and with the Soviet Union. However, only the negotiations themselves can tell whether it is, in fact, a practical and timely step. To take that step there must exist a strong political will and commitment by our leaders. I hope that will be the case. I am encouraged by recent statements by President Reagan and Secretary of State Haig putting strong emphasis on the importance of arms reduction and expressing the Government's commitment to working for progress at the negotiating table.

[9] In the interest of strategic stability it would be very desirable to banish all weapons deployments of such immediate threat to each nation's capital. Necessary provisions of such a ban would also include minimum stand-off distances for the deployments of the SLBM forces. It would be highly desirable to negotiate such a provision in the next round of arms reduction talks.

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I am also encouraged by the resurgence of informed public interest in nuclear weapons and policy. Public hearings such as you are holding here today add importantly to the expansion of that interest. In our society there is no substitute for, nor power equal to that of, a responsible public constituency that is informed on the basic issues of nuclear weapons policy. One need not master all technical details in the arms control debate, but the question of scale must be comprehended. Neither Americans nor Russians must ever forget the enormity of the destructive power of the nuclear weapons we are dealing with and the scale of human tragedy and suffering if they were ever used.

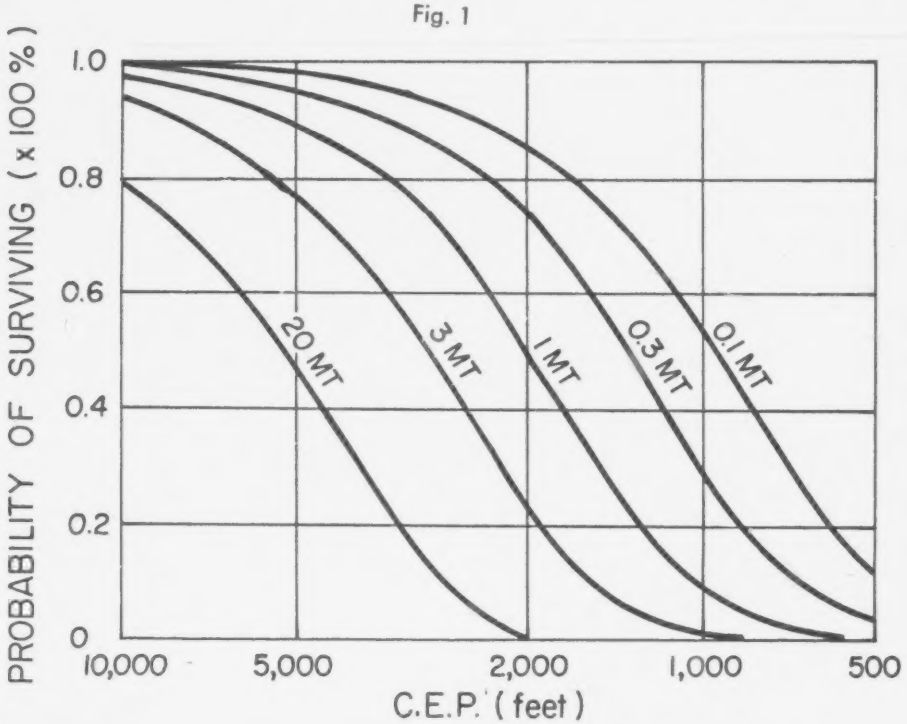
Twenty-five years ago the late General Omar Bradley, the great American GI's general of World War II, emphasized [10] the gravity of the challenge posed by nuclear weapons. Let me conclude with his words, which apply today with even greater urgency:

The central problem of our time—as I view it—is how to employ human intelligence for the salvation of mankind. It is a problem we have put upon ourselves. For we have defiled our intellect by the creation of such scientific instruments of destruction that we are now in desperate danger of destroying ourselves. Our plight is critical and with each effort we have made to relieve it by further scientific advance, we have succeeded only in aggravating our peril.

If I am sometimes discouraged, it is not by the magnitude of the problem, but by our colossal indifference to it. I am unable to understand why . . . we do not make greater, more diligent and more imaginative use of reason and human intelligence in seeking an accord and compromise which will make it possible for mankind to control the atom and banish it as an instrument of war.

[10] In a commencement address at St. Alban's School in Washington, D.C., as reprinted in the New York Times (April 10, 1981) from the November 18, 1957, issue of I. F. Stone's weekly.

Fig. 1



Probability of a target hardened to withstand one thousand pounds per square inch of overpressure (1,000 P.S.I.) plotted versus the accuracy of the attacking warhead (C.E.P.) in feet. The individual curves are labelled with the megatonnage of the arriving warhead.

SPECTATOR. What chance has the general public to ask questions?

Senator PRESSLER. Let me say, first of all, this is a Senate hearing and in the procedures that we follow, and I'm sure that my colleagues would join in supporting me on this, we do take written testimony from the public and make it a part of the record, but this is not a debate forum. It is a forum for taking testimony and perhaps Senator Pell, who is the senior member of the committee, could explain that better than I, but that has been the tradition of the committee.

Senator PELL. This is a Foreign Relations Committee hearing, and the first time, really, that we have had one away from Washington, and we are following the same procedure we do in Washington where we, the representatives of the people, are interrogating the witnesses and it is not a townhall meeting or a forum or something of that sort, so this is a normal procedure.

SPECTATOR. Open the microphone out to everyone.

Senator CRANSTON. We're trying to use an effective mike. There is only one mike that works here. We must continue now with questions from Senators at this moment to the witness.

SPECTATOR. It's a public forum. Why can't the people voice their will?

Senator PRESSLER. We will have to have order. I'm going to ask a question of Dr. Drell.

Thank you for your testimony. Please comment on the feasibility of deploying MX missiles in Minuteman silos; what would the arms control implications be?

Dr. DRELL. I think it makes no sense to deploy MX missiles in fixed land-based silos. The whole rationale for the MX was to have a survivable deterrent and to improve stability, which I think is served when both countries can have confidence in the survivability of their deterrent forces.

Putting an MX missile in a silo makes them no more survivable than having the Minutemen in the silos right now. I believe that the options that are available for us when we face the Minuteman vulnerability problem are to rebase the missiles at sea where they can move around or to make progress in arms control to reduce the number of MIRV's threatening each side.

Senator PRESSLER. What is your opinion of the importance of ratifying a threshold test ban and peaceful nuclear explosive treaties, and do you see any possibility of a comprehensive test ban?

Dr. DRELL. I believe strongly in the goal to which the United States has committed itself of negotiating a Comprehensive Test Ban Treaty which would ban all underground testing of nuclear weapons.

We have committed ourselves to that along with other signatory nations to the Non-Proliferation Treaty, as well as to the Limited Atmosphere Test Ban Treaty. We have committed ourselves to working toward that goal.

I also see no technical need to continue underground nuclear testing.

As to your specific question, the Threshold Test Ban Treaty, which sets a threshold of 150 kilotons for the largest possible underground explosive—I favor that. I favor it as a step toward a lower threshold

on the way down to a comprehensive treaty. I think 150 kilotons is a very high number. One can certainly verify compliance with an underground test treaty for weapons yields an order of magnitude lower than that.

There is a principle in the Threshold Test Ban Treaty which is valuable and that is the onsite monitoring by black boxes, so to speak, for study of seismic signals as well as the right of challenge for inspection; so I think there's a valuable precedent there.

I feel 150 kiloton is an unnecessarily high threshold. However, it's a good step on the way to a comprehensive test ban.

Senator PRESSLER. I now turn it over to Senator Cranston.

Senator CRANSTON. Thank you very much, Dr. Drell, for your very helpful statement. I want also to thank you for the very important work of the Stanford arms control program. It has been of great value to many of us trying to understand the complexities of this problem.

When I was in Moscow last September with Senator Mathias, I asked chief Soviet officials a number of questions on strategic arms control. I would like to pose some of the same questions to you.

You have already answered one. You say do not believe that nuclear war can be limited. It's almost inevitable it will escalate up. That is what Marshal Ogarkov and other Soviet officials told us they believe.

Do you believe that there can be such a thing as meaningful nuclear superiority for either side of the superpower arms race?

Dr. DRELL. At the moment, we are so far from that condition, it would have to be a superiority that might exist at very low levels of weaponry.

I think that survivability is a useful quality of our nuclear forces. As long as we have nuclear weapons, which I would like to get rid of, but as long as we have them, they are only for deterrence; I think it is a contribution to deterrence because it is also a contribution to stability at time of crisis, if both sides in this competition have confidence in the survivability of their forces.

And so I think there would be an element of instability, not superiority, but instability if one side had a significant threat against the other side's forces. I believe in sensible measures to maintain a survivable deterrent.

Now, that applies both ways, and I think that deploying large numbers of strike-first missiles as a threat to the Soviet forces, as the MX with its accuracy and many warheads will be, is not in the American interest any more than I think it's in American interest to maintain a highly vulnerable ICBM force.

Senator CRANSTON. Do you think that either side will permit the other to attain and maintain what it would perceive as a superiority in nuclear weapons?

Dr. DRELL. No, it's a stated policy of both governments not to permit that. And the United States has been for the past several decades improving our nuclear forces to make clear that they are highly survivable.

There are so many extra warheads we have when there are, I believe you said, Senator, 200 cities that are reasonable targets in which something like 60 to 70 percent of Soviet industry is located and some 90 to 100 million people.

We have 9,000 to 10,000 warheads deployed in our forces now, and it's hard to know how to measure superiority relative to such an excess. But there is the survivability parameter which I think is a serious one for us to attend to in sensible ways; but not with the land-based MX, however.

Senator CRANSTON. Marshal Ogarkov and other Soviet leaders told us, in effect, the same thing, that they do not believe that either side will permit the other to attain or maintain superiority. I gather you believe that a nuclear war cannot be "won" by either side?

Dr. DRELL. I absolutely think you cannot have a nuclear war with winners because to win you have to survive and I think that the overwhelming likelihood, once we cross the nuclear threshold, is that the war will escalate. There's a great danger that after the first nuclear weapon is used in anger, the nations involved with their vital interests at stake will dig ever deeper into their arsenal of 50,000 weapons.

And on the technical side, there is no technical basis to have any confidence that it will even be possible to control escalation once a limited nuclear conflict starts.

It's in the nature of command, control, communication systems that basic elements of it such as its eyes are vulnerable. They see, they can be seen, and they cannot be hidden from the enemy. So a system like that with vulnerable parts which may be threatened doesn't offer much confidence that one has the means to limit the escalation of a nuclear war. I think it's by far the most dangerous idea to play with, a limited, survivable, winnable nuclear war. I reject it 100 percent. [Applause.]

Senator CRANSTON. That, too, coincides with what the Soviet leaders told us was their view.

One more question on that point, do you believe that either side could conceivably launch a successful first strike against the other that would be so devastating that the other side can no longer have the capacity and the will to retaliate to the other side?

Dr. DRELL. Capacity, I can respond to your question. Will, of course—I cannot respond to the question.

As far as a successful first strike to deny the capacity to respond, I consider that impossible from the point of view of looking at U.S. forces because of the diversity of deployment.

The bombers can take off with warning that should be available. The submarines move invisibly under the oceans and cannot be targeted. They have three-fourths of our nuclear warheads on them. When we talk about a threat to the U.S. deterrent, we're really only talking about a theoretical threat against one-fourth of our warheads, the Minutemen.

I think, it's absolutely impossible to disarm the United States. I cannot see in any way how the President of the United States could disarm the Soviet Union either, not only because they do have sizable resources at sea, but because they have so many land-based ICBM's. So I see no possibility of a disarming strike. As to the matter of will after the first strike, I have really no comment.

I hope it's understood, because I consider it part of deterrence, that anyone who is tempted to make a first strike is, to a large probability, running the risk of committing suicide and hence won't do it.

Senator CRANSTON. That, too, coincides with what Soviet leaders told us, that they do not believe a first strike could effectively disarm the other side from a devastating retaliatory attack.

Finally, I'd like to turn to the matter of civil defense for a moment. A recent news story by Robert Scheer of the Los Angeles Times indicates that the administration may be moving toward new costly civil defense efforts in the United States designed to greatly reduce the effect of nuclear war on Americans.

Two questions on that story. Do you believe that civil defense efforts can meaningfully limit the number of deaths or do you think such funds would in effect be wasted?

Do you believe such efforts make nuclear war more thinkable or more likely insofar as they deceive people into thinking that nuclear war is tolerable?

Dr. DRELL. I can't conceive of a civil defense system that would protect Soviet society or the American society from unimaginable disaster, desolation, devastation in all-out nuclear war.

When you look at the magnitude of the problem, for example, the fact that people after an all-out nuclear strike would still have to live underground for weeks and in many places months under 2 feet of dirt to avoid death due to radioactive fallout, you are not talking about one incident, but you're talking about a catastrophe with a longtime scale before one can even come out and recover, and so one would have to prepare survival shelters for a longtime period.

Perhaps just one number would help understand the magnitude of the problem. One megaton out of tens of thousands in the world right now makes, under typical wind conditions, if detonated near the surface of the Earth, approximately 1,000 square miles of the Earth's surface uninhabitable to unsheltered humans for weeks after it is dropped.

That gives you some idea of the magnitude of the problem. So I think civil defense can save some lives, but the casualties are more at the disposal of the attacker: How the attack is targeted, what are the targets of the attack, where the wind is blowing, what the weather conditions are.

These will control the number of casualties more sensitively than any conceivable civil defense that I know. Now, as to whether civil defense will make war provocative or not, it depends upon what civil defense we're talking about.

Civil defense is a very important issue; it is a very personal issue because it touches the basic human instinct of survival. We live here and everywhere with the potential for disaster, whether it's earthquakes, nuclear reactor accidents, weather-caused catastrophes of any sort, so I cannot say one should do nothing by way of civil defense.

I think prudent planning to survive accidents or catastrophes is always sensible. But if one says that a civil defense system is being deployed because it makes a limited nuclear war winnable, or it is a necessary part of our defense policy, then it is a cruel delusion; and if it leads anyone to believe nuclear war is credible or survivable as some past Secretaries of Defense have said at times, then it is a harm to stability and to our survival. [Applause.]

Senator CRANSTON. I would assume then that you would feel that whatever civil defense efforts are being made by the Soviets can pro-

vide them no sense of assurance about their capacity to survive in a meaningful sense a nuclear war?

Dr. DRELL. They're certainly deluded if they think it will protect them, and their official government statements express the same judgment. When one looks at the way their industrial modernization has not dispersed their industry and one looks at their limited effort to try and prepare for survival out in the boondocks if cities were evacuated, it is certainly my judgment that there is no valid reason for them to conclude that they have a much better chance of surviving nuclear war based upon what they have been doing.

Senator CRANSTON. Thank you very much.

Senator PELL. Doctor, there's an old triplet that goes, put the weapons out to sea where the real estate is free and they're far from you and me. And I notice in that regard in your testimony you mentioned the idea, SUM, putting the weapons in small submarines and Senator Hatfield, our colleague, is very interested in this.

Dr. DRELL. That's right.

Senator PELL. Would you enlighten us what possibility you see in that program moving ahead or what its present status is?

Dr. DRELL. "Going to sea" on small diesel submarines has not been included in the administration's planning as a possible future basing for the MX missile. I have not seen a proposal emerge for basing the MX that makes any military or political sense to me, other than that one that is SUM. I have said already, putting the MX in silos where they would be vulnerable will not improve the survivability of the U.S. force.

In fact, that would be putting first-strike, hard-target kill weapons in a vulnerable basing which is surely the way to make the Soviets more nervous that we might consider a first strike.

Superhardening of silos buys you a little, not very much. That point has been made in the congressional debate. I find the notion of the big bird airplane not as attractive technically for a number of reasons. First, I don't think that it's going to be a very survivable airplane, given over-the-horizon radar capabilities; and, second, I think that putting more of our deterrent in a basing that requires tactical warning of a Soviet launch to get it up in the air and escape doesn't make sense.

I, of course, would like to do away with the need for MX, but if we're going to have it, putting them under the sea still makes better sense than any other proposal. There is currently a lot of fascination with antiballistic missile defense of land-based missiles.

I have a number of problems with that on a technical level. I have not seen any concept of an ABM system that is capable of defending 10 warheads sitting in 1 silo.

In addition, the ABM treaty is the major achievement of arms control after 12 years of discussion and to give that up at this point would be a major setback, not only for us, but politically it would be a major strain, I believe, between us and all our allies.

Think for a moment of the record of the ABM debate in 1969–70, which I believe you were very much a part of. At that time the point was made and stuck eventually that an ABM system can defend against one or two warheads on a very light attack, but against a determined attack with many warheads, an ABM system collapses.

We have allies who have very light deterrent forces: England, France, and China too, if you want to include them. Therefore, I think that anything we do to abandon the ABM treaty would not only be militarily ill advised, but also politically ill advised.

Senator PELL. Second, and finally, there was an article in the press the other day saying that the administration has been considering, as I understand it, the idea of a protracted nuclear war. Do you think that is within the realm of possibility?

Dr. DRELL. I need a clearer discussion from the planners who have proposed that, of what they mean by time scale, or duration, of a nuclear war.

Senator PELL. The question is weeks and also the vision is that the two leaders surviving would be floating around the Earth sort of exchanging——

Dr. DRELL. I can see the importance of having the command and control and the survivability of forces so that the President is not in a position of thinking he must do the right thing, push the right button within 20 or 30 minutes or else.

I would consider that a very destabilizing circumstance. I certainly reject the "launch on warning" or "launch under attack" options. I want our leaders to know that, if someone were to attack us suicidally, the damage they would do to our ability to respond would be very small; this would thereby remove the time pressure of a hair-trigger response. Once having assured survivability and command and control, I personally give very little credence to requiring durability of weeks or months.

I think we're either going to stop the insanity very quickly before it gets out of control or else! I think the highest priority should not be to worry about what happens 2 weeks after the first nuclear weapon hits. It's what happens 2 weeks before that is crucial. I don't think we give enough attention there. [Applause.]

Senator PELL. Thank you very much.

Senator PRESSLER. Dr. Michael May is next.

Dr. May is the former director of the Lawrence Livermore Lab, associate director at large. He has served on the SALT negotiating team and he organized a major arms control conference at Livermore last May.

Let me welcome you, Dr. May. If you could summarize your testimony in 10 minutes, we will put your entire testimony in the record.

STATEMENT OF DR. MICHAEL M. MAY, DIRECTOR, LAWRENCE LIVERMORE NATIONAL LABORATORY, LIVERMORE, CALIF.

Dr. MAY. Thank you, Mr. Chairman. I will summarize my testimony as best I can. I would like to talk about our nuclear weapons policy, where it came from, where it is, what some of the alternatives are, and where it might lead to in the way of arms control. That is quite a tall order for 10 minutes, but I'll leave out what I can. The policy is based on the recognition of two facts. One is that the knowledge of how to make nuclear weapons cannot be kept secret or unlearned and the other is that we do not have a reliable international arrangement to prevent war.

Those facts are well known. I submit to you that, together they do not permit a comfortable risk-free policy. It is useful to recall just how bad things were when the first atom bomb exploded. That was during World War II. I was in the Army as were many of you and many in the audience. There had been close to a hundred million men under arms recently all around the world in various countries trained to kill each other or face the expectation of being killed or having their families killed; and 60 million people had, in fact, been killed and hundreds of millions had been enslaved.

Most people who had paid any attention before the war had seen it coming with most of its horrors. Yet the system of governments that we had then and that we have today was unable to prevent war. Against this background the bomb came as something of a deliverance from further war. It is hard to believe today, but reading almost any newspaper of the time or talking with anyone old enough to be in the service then or to have had a husband or son in the service, shows that feeling clearly. There was hope along with that feeling that things would change.

But we are what had to change, the people and the institutions, and we have changed slowly. The United States took some very generous initiatives, in my view. But power politics did not change very much or very fast. The atom bomb and the H-bomb made all sides vulnerable to rapid destruction. That was not new, but the scale and rapidity of destruction were new. It was clear that the policy had to prevent war altogether if it could. How to bring this about in a world of sovereign government which was still dominated by misapprehensions and traditions was and is a very difficult task.

The nuclear policy which evolved from this background has not changed, I believe, very significantly in the time since. It has three major features.

The first feature is that our nuclear forces must be protected so that an attack cannot destroy them. Without this protection they constitute an invitation to attack, not a deterrent. The protection, not the weapons themselves, is what has cost the most money. The protection has taken the form of bombers, silos, submarines, warning satellites, and the like. There has been a lot of discussion about what it should be, but the policy of protecting the forces remains a fundamental tenet of our policy.

The second feature is that we must have enough force so protected that no attacker can have any illusion he could win a nuclear exchange, no matter how he defined victory. The attackers in World War II, both Germany and Japan, and those in many previous wars, did not weigh the pros and cons of war in any objective manner. They thought that winning an early battle would be sufficient. They won their early battles, but it was not sufficient. They did not win the war. In fact, in the sense of being better off after the war than before, no one won World War II, and in that sense no one could win World War III, either. Yet still one side could come out politically dominant if the other did not have an effective response. The policy is to make it clear ahead of time that no such advantage can be derived from a nuclear attack.

The third feature of the policy is that we must couple our strength with a moderate and nonprovocative foreign policy where the other

sides' vital interests are concerned and at the same time, we must not let any aggression succeed where our vital interests are concerned. In other words, we must draw a line where we can. Of course, this cannot be done everywhere and where we can do it, it cannot be done perfectly. Even when it can be done, it is a very difficult policy to accept when there are people on the other side of the line who want to be free of the Soviet Union. This kind of restraint is an essential part of any deterrent policy and in one form or another, it has been part of every U.S. administration's policies since the war.

Now, no one can trace cause and effect in history, so we cannot be sure that the policy I outlined has succeeded, but clearly it has not failed. There has not been another world war. There has not been a breakdown of relations between states. There has been caution on both sides where the vital interests of the other side were concerned. We have not tried to liberate Eastern Europe and no one is talking that way today. The Soviet Union backed down in Cuba and did not really try to take military advantage of the Iran situation.

While the U.S. nuclear policy has not changed, the number of weapons, of megatons and of missiles have fluctuated up and down. They have not been increased in the last decade or so, but the impact on the Soviet Union of a successful U.S. response has remained substantially the same: millions of deaths, destruction of the ability to wage war further, and much more destruction.

The language we use to talk about our policy also changes from time to time. Sometimes the emphasis is on mutual assured destruction and sometimes on destruction of military capability. I have come to feel that these changes in language which occur periodically do not mean very much. Any nuclear exchange would involve a great deal of mutual assured destruction and any exchange would clearly aim at destroying as much the other side's ability to destroy or to cause further death and destruction as possible.

The policy that I have outlined can lead to and is helped by arms control; arms control is an important part of a moderate policy. Major reductions are possible, as the other speakers have mentioned, if the reductions are mutual.

That the fewer weapons we have, the more carefully they have to be protected. So I believe we may see significant reductions in destructive power and we should. But we have not seen the end of new airplanes or new submarines or new missile basing systems to replace the old ones.

Now, the question comes up, are there better alternatives than this policy? One alternative would be significant unilateral disarmament. I do not believe such disarmament would help preserve peace. If we did disarm, I think any major crisis would provide an enormous incentive to rearm and to rearm under exceedingly dangerous conditions. It is better to maintain a level of weaponry sufficient to deter the crisis in the first place. The time when we want the threat of the nuclear war to be most real to both sides is during the normal procedures of peacetime, when there is time and flexibility in the minds of leaders to steer away from war.

Another alternative to our present policy would go all the way in the other direction and would rely on force to bring about major change in the Communist world. I think that alternative also would be dangerous

and unrealistic. I believe the Soviet empire in Eastern Europe is both wrong and fragile, but I also think attempts to hasten its demise by the threat of force would be one of the few things that could cause the Soviet Union to consider steps that might lead to war.

Both of these alternatives, both the alternatives of disarmament and of arming to force change, suffer from the same weakness. They are both in a sense technological gimmicks. They both focus on inanimate objects which can be counted and measured, the weapons, but which do not themselves either pose a threat or solve the problem. Neither the problem nor the solution, I believe, lies in doing something about these objects. Weapons technology, like any technology, is a set of ideas. It is permanently a part of human knowledge, whether we like it or not. The problem and the solution are to adapt our institutions and our behavior to this knowledge.

What hopes for improvement then does our present policy offer? As we all know, improvements in social and political affairs do not come quickly. In the case of sovereign governments, the problem is particularly difficult. Sovereign governments were designed and entrusted throughout history, for the protection of people's interest by force, if necessary, and force has often been necessary. Thus progress can only be slow.

Nevertheless, despite or perhaps because of all the horrors of the two world wars, I think there has been some progress gradually since that time. Progress is vulnerable. Catastrophic breakdown remains possible, but if we compare the kinds of actions that are threatened or taken by the heads of major powers today with those which were talked about 40 years ago, it's clear there is far more awareness of consequences and far more caution in matters that can lead to war.

There has been progress on arms control. Again focusing on the numbers would cause us to overlook the real progress.

The problems of arms control have not changed; they remain just as they were described by Harold Stassen in 1955 to President Eisenhower: Effective inspection, comparable reductions on both sides, impossibility of entirely eradicating nuclear weapons, fear of surprise attack driving a competitive buildup, and the possibility of other nuclear powers, and the threat of new weapons.

Mr. Stassen said then that the United States should never cease looking for a sound agreement and the United States never has. But the road to sound arms control agreements is long because a sound agreement requires some degree of mutual trust. Attempted shortcuts which have been tried either aborted or they have been disastrous; but slow and informed persistence has brought some results.

Since these early days the Soviet Union, for instance, has agreed not to interference with or hide from satellites which was not their original position when satellites first were launched. They have agreed to exchange some data relevant to their military forces which goes much against the grain of their society, and to cooperate with a few of our inspection methods on the ground.

For our part, we have agreed to a very significant and controversial change. We have agreed to consider that the Soviet Union should be on a level of parity with us, something which Winston Churchill in

1946 specifically warned us not to do. We did agree to it and it certainly is a major precondition to arms control.

I need only to remind this committee of how unlikely this situation would have seemed to your predecessors of 25 years ago and ask you to imagine how even more drastic these changes would seem to the Soviet bureaucracies of 25 years ago.

Now, there remain many nuclear weapons around us as has been testified; there are too many, but even after a reduction, there will be a great many, and they are a cause of fear.

They make the danger very real and immediate to us. But I think we should recall that they also make the danger of war very real and immediate to government leaders everywhere.

And that, I think, more than anything else should keep up the pressure for better arrangements between sovereign governments. What those arrangements should be is viewed very differently on the two sides, as we all know, and we all know that democracy has a minority voice in the world.

Nevertheless, I believe that a workable arrangement might emerge, but it can emerge only in the long term and only if the United States maintain the ability to deter attempts to bring about unacceptable arrangements by force.

For those reasons, I subscribe to the present U.S. policy of armed deterrence with its hopes for slow rather than dramatic improvements.

This summarizes my testimony, sir. I will try to answer questions.

[Dr. May's prepared statement follows:]

PREPARED STATEMENT OF DR. MICHAEL M. MAY

Thank you, Mr. Chairman, for inviting me today. I want to talk about our nuclear weapons policy, where it came from and what it is, what some of the alternatives to it are, and what it can lead to in the way of arms control. This will be a personal view of these matters.

Our nuclear weapons policy is based on the recognition of two facts: one is that the knowledge of how to make nuclear weapons cannot in the long run be kept secret and cannot be unlearned, and the other is that we do not have a reliable international arrangement to prevent war. Together, those facts do not permit a comfortable or risk-free policy.

It is useful to recall how bad things were when the first atom bomb exploded. There were or had recently been close to 100 million men under arms around the world, trained to kill each other or face the quite realistic expectation of losing their lives, their families' lives, their country's freedom. Sixty million people had been killed, hundreds of millions enslaved. Most people who paid attention had seen the war coming in all its horror. Yet the system of governments we had then and have today had been unable to avoid it.

Against this background, the bomb came as a deliverance, a deliverance from further war. Reading almost any newspaper of the time or talking with anyone old enough to have had a husband or son in the service then shows that feeling clearly. And there was hope that things would change. But we are what had to change, and we change slowly.

The United States took some generous initiatives, but the game of power politics could not change very much very fast. The atom bomb and the H-bomb afterwards made all sides vulnerable to rapid destruction, but vulnerability to destruction is nothing new in the world. What was new were the scale and the rapidity of destruction. We needed to prevent war altogether. How to bring about this objective in the fragile world of sovereign governments, dominated by misapprehensions, unproductive traditions and slogans, was and is the object of the policy.

The nuclear policy which evolved from this background has not changed in any significant way since the fifties. It has three major features.

The first feature is that our nuclear forces must be protected so that an attack cannot destroy them. Without such protection, the nuclear forces would constitute an invitation to attack in times of crisis rather than a deterrent to the crisis itself. The protection has taken the form of bombers on alert, of hardened silos and of submarines at sea. It has required airborne communication centers and warning satellites. What form it should take in the future is a subject of debate, but the policy of protecting the forces from attack is not. These protective measures consume by far the largest part of the dollars spent on the nuclear forces.

The second feature is that we must have enough force, protected and survivable, so that no attacker can have the illusion he could win the nuclear exchange, no matter how he defined victory. The attackers in World War II (and those in many previous wars) did not weigh the pros and cons of war in any objective manner. They thought winning an early battle, which they could do, would be sufficient. It was not. They did not win. No one won World War II in the sense of being better off after than before. In that sense no one can win World War III. Yet one side could come out politically dominant if the other had no effective response. The policy is to have enough force so it is clear ahead of time that no such advantage can be derived from a nuclear attack.

The third feature is that we must couple this strength with a moderate, nonprovocative foreign policy where the other side's vital interests are concerned, as best we understand them. At the same time, we must not let aggression succeed where our vital interests are concerned. In other words, we must draw a line, where we can, on one side of which we will prevent the use of force by others and on the other side of which we will not use or threaten force. Of course, this cannot be done everywhere and it cannot be done perfectly. Even when it can be done, it can be a very difficult policy to accept when there are people on the other side who want to be free of the Soviet Union. But such restraint is an essential part of any deterrent policy aimed at keeping the peace. In one form or another, it has been part of every U.S. administration's policy.

No one can trace cause and effect in history, so that we cannot be sure that the policy I outlined has succeeded. Clearly, it has not failed: there has not been another World War. We must remember that both World Wars I and II were preceded by years during which the United States was warned to improve its military preparedness, warnings which were unpopular and disregarded. These warnings have not been disregarded since World War II and there has not been another breakdown of the relations between major states.

There has been caution on both sides where the other's vital interests were concerned. We have not tried to liberate Eastern Europe and no one is talking that way today. The Soviet Union backed down in Cuba and did not try to take military advantage of the Iran situation.

While the U.S. nuclear weapons policy has not changed, the numbers of weapons, of megatons, of missiles have fluctuated up and down. But the impact on the Soviet Union that a successful U.S. response would have has remained substantially the same: millions of deaths, destruction of the ability to wage war further, destruction of much else.

The language we use to talk about our policy also changes. The emphasis is sometimes on mutual assured destruction, sometimes on destruction of military capability. I have come to feel that these changes in language mean very little. Any nuclear exchange will involve a great deal of mutual assured destruction. Also any exchange will aim at destroying as much of the other side's ability to cause more death and destruction as possible.

The policy can lead to, and is helped by, arms control. Arms control is an essential part of a moderate policy. Major reductions are possible if the reductions are mutual. But the fewer weapons we have, the more carefully they must be protected. We may see significant reductions in destructive power, but we have not seen the end of new airplanes or submarines or missile basing systems to replace the old ones.

Are there better alternatives than this policy? One alternative would be significant unilateral disarmament. I do not believe such disarmament would help preserve peace. We are too deeply involved in the world's affairs. If we disarm, any major crisis would provide an enormous incentive to rearm—and to rearm under exceedingly dangerous conditions. It is better to maintain a level of weaponry sufficient to deter war in the first place, coupled with a moderate stance. The time when we want the threat of nuclear war to both sides to be most clearly perceived is during peacetime, when there is the most time, and the most

flexibility in the minds of those making the decisions to steer away from war.

Another alternative to our present policy would be to rely on force, actual or threatened, to bring about major political change in the Communist world. That alternative also would be dangerous and hopeless. I believe the Soviet empire in Eastern Europe is both wrong and fragile, but I also believe that attempts to hasten its demise by force would be one of the few things that could cause the Soviet Union to consider steps against us that could lead to war. Hoping that our strength can be used directly to force political change within the Soviet Union is an equally dangerous delusion.

Both of these alternatives, disarmament and arming to force change, suffer from the same weakness: they are technological gimmicks. They focus on the inanimate objects which can be counted or measured, but which of themselves do not pose the threat solve the problem. Neither the problem nor the solution lies in doing something about these objects. Weapons technology, like any technology, is a set of ideas that is permanently a part of human knowledge. The problem and the solution are to adapt our institutions and our behavior to this knowledge.

What hopes for improvement then does the present policy offer? As we all know, improvements in social and political affairs do not come quickly. In the case of sovereign governments, the problem is particularly difficult. Sovereign governments were designed and entrusted, throughout history, with protecting their peoples' interests by force if necessary. And force has often been necessary. Thus progress can only be slow.

Nevertheless, despite or perhaps because of all the horrors of the two World Wars and of other wars, progress has been taking place gradually. This progress is vulnerable. It often takes unpopular forms—restraints in pursuing our interests, costly security or aid agreements, compromises of all kinds. Catastrophic breakdown remains possible. Yet, if we compare the kinds of actions taken or threatened today by the heads of major powers with those of forty years ago and earlier, it is clear that there is far more awareness of consequences and more caution in matters that could lead to war.

In particular, there has been progress on arms control. Again focusing on the numbers will cause us to overlook the real progress. The problems of arms control remain as they were described by Harold Stassen in his first report to President Eisenhower in 1955: effective inspection, comparable reductions on both sides, impossibility of entirely eradicating nuclear weapons, fear of surprise attack driving a competitive buildup, the possibility of other nuclear powers, the threat of new weapons.

Mr. Stassen said the United States should never cease searching for a sound agreement, and the United States never has. But the road to sound agreements is long, because a sound agreement requires some degree of mutual trust. Attempted shortcuts have either been abortive, such as the uninspected arms freezes and test bans proposed early on by the Soviet Union and others, or disastrous, such as the test moratorium of 1958–61, which concealed the Soviet preparation for the largest test series in history, one which laid the groundwork for much of their present threat. But slow, informed persistence has brought result.

Since those early days, the Soviet Union has agreed not to interfere with or hide from satellites and other technical means of checking on their compliance with arms treaties; to exchange data relevant to their military forces; and to cooperate with our inspection methods on the ground. The United States, for its part, has agreed among other things to consider the Soviet Union as being on a level of parity with ourselves, despite Winston Churchill's 1946 warning that we should not do so. That is certainly a significant and controversial arms control agreement.

These agreements represent major change. I need only remind this Committee of how unlikely they would have seemed to your predecessors of 25 years ago, and ask you to imagine how even more drastic the changes would seem to the Soviet bureaucracies of 25 years ago.

There remain nuclear weapons around. They are a cause of fear. They make the danger real and immediate to us. But they also make it real and immediate to government leaders everywhere. That, more than anything else, should keep up the pressure for better arrangements among sovereign governments.

What those arrangements should be is viewed very differently on the various sides as we all know. Democracy has a minority voice in the world. I believe a workable arrangement can emerge only if the United States, and perhaps all sides, maintain the ability to deter any attempt by any side to force its own arrangements. For those reasons, I subscribe to the present U.S. policy of armed deterrence, with its hopes for slow rather than dramatic improvement.

Senator PRESSLER. Thank you very much. As director of one of our important nuclear weapons laboratories, what is your opinion of limiting or banning nuclear testing of any kind?

Dr. MAY. First, let me point out, I was director of the laboratory from 1965 to 1971. I am now associate director. On the subject of banning nuclear weapons, there are a number of practical problems which we will have to continue solving.

Nuclear weapons have to be replaced; nuclear weapons have to be adapted to the different missiles, for instance on different submarines which in turn have to be deployed in order to maintain survivability.

Different formulation of materials come up which make nuclear weapons safer, which make it harder for intruders or terrorists to use them, so that the design has to change. Whenever you make these changes, there is usually a need to test the new design.

It is important to know that over the past decade or two, nearly all the work at the weapons laboratories has been aimed at replacing certain nuclear weapons with others, not at expanding the stockpile. The numbers of weapons have gone down from the peak where they were about 20 years ago. The megatons have gone down, also. Both still very large numbers. Most of the work of the laboratory has to do with these replacement and modernization tasks, which in turn must be carried out if we are going to maintain any deterrent at all. For that reason, I am against a complete comprehensive nuclear test ban.

Senator PRESSLER. What is your view—excuse me. We must listen to the opinions. A Senate hearing, as my colleagues will point out, is to gather opinions and anybody can submit their opinion.

What is your view of the President's theater nuclear forces proposal?

Dr. MAY. Theater nuclear forces?

Senator PRESSLER. Yes, his recent speech.

Dr. MAY. I'm not sure I'm familiar with the specific proposal you're talking about.

Senator PRESSLER. For the European missile——

Dr. MAY. The negotiating proposal?

Senator PRESSLER. Yes.

Dr. MAY. I think it's a good proposal. I hope that we can carry it forward a good distance. I do not know how far the Soviet Union will go toward meeting that proposal. Mr. Nitze, whom we all know is a very skilled and perseverant negotiator. But basically, I think it's a proposal that would stabilize the situation in Europe and I certainly support it.

Senator PRESSLER. Thank you very much for your testimony. I'm going to call on questions from Senator Cranston.

Senator CRANSTON. I will pass it to you, Claiborne, first.

Senator PELL. Thank you, Senator. I'd be interested in your view as to whether you think in a nuclear war, one side or the other would in any meaningful sense come out better or worse than the opposing side?

Dr. MAY. I heard that question discussed today at other times, and frankly, I do not see how anyone can be smart enough to really answer it. Nuclear war would be totally unprecedented.

We all hope it never occurs, but if it did occur I do not think any of us have a good way to predict what would be the political and human circumstances surrounding it. So I have never been able to predict for my own satisfaction whether it would be long or short, whether it could be limited or not.

It would be an extraordinarily traumatic event. And what the effect of that would be on the governments that survive, is for me impossible to predict.

Senator PELL. With your experience in laboratories, what percentage of the weapons on either side do you think would work if they decided to push the button?

Dr. MAY. I think most of the weapons that receive the signals to fire would work. I think that, however, a great many of them would be destroyed on either side's first strike.

The way things are today, the response would be considered intolerable by any sane government. And that fact, I think, more than anything, can give us hope for some time to avert a war and to bring about better political arrangements.

On the other hand, that situation is not going to continue without careful attention. We do have to change the weapon system in order to insure the survivability. We do not have to add to them, but we have to change them.

Senator PELL. Finally, one of the real problems is the question of verification. I guess that's the bottom line of all the agreements you may conclude or would like to conclude. Do you see any breakthroughs with regard to verification? We have only, as you know, national means now that we rely on.

Do you see any movement in a new direction?

Dr. MAY. I see movement, sir, but not what you would call breakthrough. I believe we can make progress in verification and derive from it a more air-tight type of agreement in the future than we have so far.

The agreements we have so far are of great value, but I believe we can do better. As I testified before this committee a couple of years ago, one way in which me might be able to make progress is to try to verify the actual number of missiles rather than the launchers. That would take cooperation, not necessarily on-site inspection, but cooperation in the procedures that are followed in the two countries.

I think there is some hope for that and I think we should be able to arrive at a more tightly verifiable agreement, which would be particularly important if we have more reductions than we have had in the past.

Senator PELL. What about the far-out thoughts like ESP? Anything on those?

Dr. MAY. Not from anything I know.

Senator CRANSTON. I'd like to ask what do you believe are the main impediments to real significant progress on arms control?

Dr. MAY. I think that the main impediments are the mind set and the fears and the traditions that beset governments on both sides, and most particularly the government of the Soviet Union. I think all governments are heirs to thousands of years of history when they have had to rely on force, and the way in which they hold authority

and power makes it very difficult for them to give up recourse to force.

Now, I do believe that the threat of nuclear war is so obvious and so disastrous that it moves governments in the direction of cooperation, not only in arms control, but in all the political problems which traditionally have caused war. To my mind, that is the most important thing. For avoidance of war, arms control is a piece of the puzzle but not the primary objective.

I believe that the Soviet Union is coming from a past in which it has had a very secretive government, very loath to admit any kind of failure or open itself up to discussion and it is very hard for bureaucracies trained in that way, for any bureaucracy, but particularly those, to change their ways.

Those human and political obstacles are the ones which make any progress in arms control slow. I do not think they make it impossible, but I do think we have to be patient.

I do want to make another comment. I have heard the MX referred to today as a symbol of the failure of arms control. That surprised me. As this committee knows, I am not any great fan of the MX missile, but nevertheless surely along with the MX, we ought to list the SS–18 and the SS–19 and all the other missiles which have been built by the Soviet Union since we last built any ICBM's and which are three times as numerous probably and—3 or 4 times as powerful all told as the MX force is likely to be.

Senator CRANSTON. Thank you very much. I have no further questions.

Dr. MAY. Thank you, Senator.

Senator PRESSLER. Thank you very much for your testimony and for your courtesy before this committee. [Applause.]

Let me next call upon Dr. Philip Farley, who is a retired career Foreign Service officer, and we look forward to his testimony. Do you have a comment on welcoming him?

Senator CRANSTON. Dr. Farley is one of the leaders of the excellent Stanford arms control and disarmament program.

He was Deputy Director and Acting Director of the Arms Control and Disarmament Agency in Washington at one time, and is former head of the Political-Military Affairs Bureau at the State Department.

We welcome you.

STATEMENT OF PHILIP J. FARLEY, STANFORD ARMS CONTROL AND DISARMAMENT PROGRAM, STANFORD, CALIF.

Dr. FARLEY. I think I will be able to respond to your very reasonable request that I be brief since much of the ground that is most important to cover in a hearing like this has already been eloquently covered by some earlier witnesses.

The statement I have submitted to you which I am now going to summarize is that of a professional, on the reasonable principle that one ought to talk about what he knows something about, and I have been involved with arms control policy and negotiations within the broader framework of our defense and foreign policy as the Arms Control and Disarmament Act provides, continually since 1954.

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May I say, I'm not just a professional. My personal commitment to pursuit of peace and the control of nuclear weapons goes back much further, to 1945 when I went to Japan with the U.S. Strategic Bombing Survey and wrote the official report analyzing the effects and implications of the atomic bombing of Nagasaki and Hiroshima.

In that report, which is now 37 years ago, I emphasized that the only sure way to avoid nuclear destruction was to avoid war; and that peace and the international machinery of peace had to be essential goals of American policy.

We have avoided nuclear war for 37 years. I wish we had made more progress in the solid foundation of peace.

In my statement, I have tried to describe the political forces which make it imperative that we pursue meaningful arms control agreements and which give real hope that persistent efforts will lead to substantial results.

I address three questions. Will arms control be an active item on the agenda of the 1980's and can we count on serious and responsible interests from American citizens?

Second, what about the Soviet Union?

And third, what do we learn about the benefits and risks of arms control from what has been done over the past two or three decades?

To start with the last question, rather illogically, obviously arms control negotiations don't offer quick and easy solutions. But I think they should be valued for what they do, not for what they don't do, and a look at the 21 agreements which I have tabulated in my statement, 21 agreements which have been negotiated, shows that none is harmful to the U.S. security; all are useful to United States and to broader world interests in greater or lesser degree.

I think the principal pillars of nuclear stability from diplomacy are the Non-Proliferation Treaty and the 1972 Antiballistic Missile Treaty about which Dr. Drell spoke.

To lose or undermine either of those two treaties would heighten international tensions and increase the risk of nuclear conflicts.

And while the SALT II agreements have not been ratified, both the United States and the Soviet Union have indicated that they will in their programs stay within those SALT limits so long as the other does.

For the United States, that's very much to our advantage, since Soviet production and deployment activity would otherwise enable them in the next few years to shift the balance against us.

And I can't refrain from saying that by not ratifying those treaties, we unfortunately lose the reduction of some 300 delivery systems which the Soviets would be required to make.

In tabulating those 21 agreements, I have put them in four categories which I'll just name: Those which ban or limit the use of certain weapons; what I call preclusive agreements which try to stop bad things from happening like military activities in the Antarctic; agreements which reduce the risk of war; and arms limitation or reduction agreements.

I think this is helpful not just in a classifying exercise, but because it shows that the arms control process is not what it has sometimes been called, a sort of random effort to reach agreement for agreement's sake.

There is a pattern to it and each of these agreements has a rationale and purpose.

And indeed, if you group them this way, it helps also to see that there is real meaning to the phrase "the arms control process." Dr. Drell referred to it in connection with nuclear tests limitation, where we try to take step-by-step measures tightening up the limitations as we move toward the eventual goal.

That was what was also envisioned in SALT II, as a step to further limitations, reductions, better verification measures, greater steps to strategic stability and continued strategic arms negotiations.

Now, to turn to my second question, the Soviet Union. The arms control situation is an uncomfortable one in that our principal negotiating partner is also our principal adversary in many fields and I know that many Americans are troubled that this calls in arms control activities apparently for placing undue trust in the Russians or in agreements that perhaps will only be lived up to as long as someone finds it in his interest to do so.

So in my second section, I make points such as these. If you look at the world from the Soviet perspective, and I don't think you can have a meaningful arms control negotiating process unless you listen to the other fellow, try to see the problems as he does. [Applause.]

Neither the Soviet domestic nor Soviet international situation is evolving favorably for them. There is good reason why they should want better relations with other parts of the world and why they should want limitations on certain arms.

We don't in our arms control agreements, wherever an agreement limits our military capabilities, rely on trust of the Soviet Union, even if we can see they have some interests involved. We rely on verification.

And finally, it is an explicit purpose of our pursuit of agreements with the Soviet Union—this was enunciated most eloquently by President Nixon, who deserves a good word on occasion—we must seek agreements which are in the interest of the other side as well as ourselves because we are going to commit ourselves to those agreements. We want to do so only if they have some prospect of being successful and we can't expect an agreement to be successful and endure if it isn't in the interest of both sides.

Now, in general, I believe that the compliance record of the Soviet Union with SALT, the nonproliferation treaty, other major agreements has been good. I then examine at some length, however, the arms control implications should it prove that the Soviet Union has indeed provided or used biological or toxin weapons contrary to the Geneva protocol and the Biological Weapons Convention.

I think when one reflects on that, you have to realize that what we are trying to do is the very difficult task of building a body of law in the world, and establishing national practice which conforms to generally accepted principles. I do not believe we can realistically expect, and I do not say this to condone any violations, that that kind of process will never proceed without incidental failures.

But I can say that even if it were proved true that these activities that have been alleged with regard to chemical and biological and toxin weapons were to prove true, it would first, not show that there

was any imprudence on the part of the United States in adhering to and supporting these agreements.

This is a contingency we took into account in negotiating and in signing and ratifying them, and this would not invalidate these or other agreements. We are in a process where we cannot afford to let the whole process and valuable agreements go down the drain if there is an occasional violation. I hope it proves there is no violation.

Now, to finish off with regard to the very first question I put, what can we expect to be the role of arms control in American policy in the coming decade. I think it's already clear that it is going to have a necessary and major place in our national role in the international scene.

In the first place, public opinion requires it here and among our allies; but there is a deeper logic than just public pressure. I personally have seen this logic operate with the previous six American Presidents, three Republican and three Democratic. We have found it necessary to undertake an accelerated defense effort, a succession of complex and expensive weapon systems. Yet these become an evident economic burden, and without a proportionate increase in security, and with heightened international tension and an accumulation of offsetting destructive power opposing us.

An unending arms race is not a prospect which national leaders face with any more equanimity than citizens. Further, it is a fact which I think has to be recognized that in the presence of nuclear weapons and modern means of delivering them, no President can tell his people that any amount of military expenditure and weapons can achieve the classic objective of national defense, which is to defend your people and your territory in event of a war, in this case in event of a nuclear exchange. You cannot do that.

The unrewarding process of defense buildup which, of course, was not begun by the United States cannot be slowed down by United States action alone. Americans rightly will not in majority support unilateral disarmament relying on trust.

What we want is reciprocal limits, reciprocal reductions, verifiable, carefully spelled out, fair and balanced. Now, I submit that that is the exact definition and task of the arms control process.

And it's always worth remembering—if you ask: Is it worth the long arduous effort of negotiating such agreements—that arms control agreements offer the only direct way available to us to limit and reduce the military power which faces us in the possession of other countries.

We do have, as has been said today already, a rather thin and shifting constituency for arms control efforts in this country. I see some encouraging signs of change in this respect in this hearing, in the activities which I have observed in recent months such as those of the Physicians for Social Responsibility and the churches who are concerned with the nuclear arms race——

[Applause.]

Dr. FARLEY [continuing]. And who support various proposals to halt the nuclear arms race or to engage in a nuclear freeze.

The nuclear freeze proposals have different elements. In general, however, those I have seen have all envisaged mutual or reciprocal action, verifiable measures, step by step progress in a process of progressive limitation and reduction.

This seems to me to be a realistic and responsible approach as well as an idealistic and necessary one. Some formulations of the freeze have perhaps been too sweeping to be prudent or easily agreed. After all, the freeze approach is very close to the essence of the laborious SALT process, but I believe the supporters of these measures are aware of the difficulties and are prepared to be realistic in an effort to get broad support and accomplish more than a dramatic gesture.

I will terminate there, Mr. Chairman, since I know the pressures under which you operate.

Senator PRESSLER. Thank you very much.

Incidentally, tell me about the Stanford arms control program. Can you major in arms control and be part of the political science department? Let me just say I appreciate your testimony, everyone's testimony here, but I became chairman of this subcommittee quite by surprise, and I found that it's such a complicated field when you really get into it. It's a field that a lot of people have strong emotions about, but when you dig into it, there's a whole language to it and maybe there shouldn't be, but there is. And it's been a fascination to me.

But tell me, what does the Stanford arms control program do?

Dr. FARLEY. Mr. Chairman, it is basically a course for students who are going to be citizens. It is possible to take a degree, for example, in international relations with an emphasis on arms control, but basically it appeals to prospective citizens and indeed the students who participate are divided pretty well throughout the major college disciplines, not just political science and international relations, but students from engineering, from physics, from law, as I say, quite across the spectrum.

And we try to introduce them to the technical and political complexities so that when they deal with public policy issues of the kind we have been addressing this morning, they are not intimidated by some of the language of Drs. Drell and May, and are indeed able to do what Sid Drell said was the test. They may not appreciate the details, but they can appreciate the scale of what is involved.

Senator PRESSLER. My final question. Some claim that military alliances such as NATO are dangerous from the standpoint that they may lead to warfare. However, would individual nations not be more inclined to acquire nuclear weapons for self-defense?

Dr. FARLEY. I'm, of course, a man of the 1930's and of World War II and the logic of collective security is an important logic to me, not only world collective security as envisaged eventually under the U.N. Charter, but alliances such as NATO; and I think the predominant reasons have been rightly implied in the latter part of your question.

First is that it is easier to prevent a war by collective action than simply relying on individual states. The alliances to which the United States as a party are defensive and deterrent alliances.

They have the additional advantage which you referred to that they reduce the pressure on individual countries to seek in each case a complete panoply of modern weapons and most particularly nuclear weapons.

I think it would be very difficult for an advanced industrial state like Japan or the Federal Republic of Germany, as its young people grow up and forget the history of the war, for such a country long

to remain nonnuclear if it did not have the reassurance of the alliance with the United States which places a more powerful nuclear deterrent in its support than it could ever hope to achieve on its own.

I think our alliances contribute to nuclear nonproliferation as well as to stability and peace in the world.

Senator PRESSLER. Thank you.

Senator CRANSTON. Following up on Senator Pressler's question, do you concur in the view advanced by some that present American weaknesses in conventional military strength compared to those strengths of the Soviet Union may be an invitation to go nuclear in the event of confrontation?

Do you feel, therefore, that we should do less to be developing our strategic nuclear strength and more to develop our conventional strength; and do you feel that that can be done within the limits of the budget constraints that we are now under with the budget so unbalanced and defense spending contributing to that unbalance?

Dr. FARLEY. This is a very large question. I will say briefly that I believe our conventional weakness has been overstated. It is true that the United States does not have the number of men under arms that the Soviet Union does, the number of tanks and so on, but we are part of an alliance and the fair comparison is the United States, its allies and friends, with the Soviet Union, its allies and friends and its enemies.

The latter has many more enemies, armed enemies—I'm using this term for rough classification only—than we do, so the Soviet Union faces the more serious threat.

If you would draw that kind of balance sheet, we clearly have work to do to maintain a sound overall military balance, but it is work that we have been engaged in pursuing since 1976.

We have had an absolute increase in military budget every year since then and NATO has been engaging in a similar effort.

Perhaps we could do more, but I don't think it's right to speak of weakness too easily. Now, I agree with the second proposition that to the extent that there is repair to be made in our defensive posture, it is at least as important to maintain an overall military balance and in particular in the conventional field, partly because that is the way in which it is most conceivable that conflict might break out, partly because one of the great dangers if conflict does break out is that if it goes against us, there would be the temptation to use nuclear weapons contrary to all good sense. So I believe maintaining the conventional balance does provide some assurance against involvement in nuclear hostilities.

Senator CRANSTON. It seems to me that the difficulties that have held back successful arms control negotiations of really substantive nature with the Soviet Union are less technical than political and perhaps lie in perceptions and misperceptions and fears on each side.

Do you concur in that and what do you feel can be done to overcome those difficulties? How would you approach an effort to open up a new and significant dialog with the Soviet Union on weapons control?

Dr. FARLEY. Thank you for asking that question. That was the part I cut out in my summary.

I think clearly arms control is part of the process of better understanding, improved dialog and wherever common interests can be found, formal or informal working arrangements with the Soviet Union.

I will not address myself to the defects and dangers of the Soviet Union. They are real, but as has already been implied today, the Soviet Union is made up of people. They have many of the common problems, and perhaps more than we do, and have very real concerns, not only about their security, but about the future and health of their society, and I think graver concerns than we do. There are many areas of common interest.

I regret very much when the crises at the moment, and I fear every moment is going to have crises, make us feel that it is necessary to cut off that process of working with the Soviet Union interchange of various kinds of specialists and ordinary people, all the things which make a fabric of relations that insure if there are common interests, we find them, rather than ignoring them because we don't look.

I think there's a very broad political and personal process which has to be pursued at the governmental and the nongovernmental level that creates the framework in which you can get at this difficult process of working on arms control and other more central security matters.

Senator CRANSTON. Thank you. [Applause.]

I thank you for a very helpful and constructive response.

Do you believe that the President's MX proposal for putting the MX missiles in Minuteman silos and putting cruise missiles on general purpose submarines will add to our security and will they create new problems for arms control?

Dr. FARLEY. Perhaps I could just generally endorse Dr. Drell's answer on the MX missile. I do not profess really to be an expert on the cruise missile on ships. I would just make a general layman's comment.

I think one of the great failures in arms control is a failure of imagination to see beyond the first step. I think, in general, the United States and other countries tend to see a new weapon as giving them an advantage. We rarely stop to think, is this really going to be only our weapon and only our advantage?

And when we move to ship-launched cruise missiles, of essentially strategic range either because of the location of the launcher or range of the missile, we have to remember that the Soviet Union is quite likely to have those too. And if you look at the world and look at which of our nations is most accessible to ships and which will, therefore, be more exposed by a situation in which both sides have ship-launched cruise missiles, I have to wonder if it's a wise thing for the United States to start.

It seems to me that's the kind of thing you want to stop by what I call a preclusive agreement before it begins.

Senator CRANSTON. I know you have worked long and hard against nuclear proliferation, the spreading of the capability to other countries. Do you feel that the Reagan administration is on the right track on this front, first question?

Second question, do you feel that the International Atomic Energy Agency has adequate power to deal with diversion of material and

development of capacity in other countries to produce nuclear weaponry?

Dr. FARLEY. With regard to the first question, what I have seen of both the stated policy and its application in the nuclear nonproliferation field by this administration has led me to feel that, in general, they are proceeding soundly. I can elaborate, if you desire, but I'll just stop there.

With regard to the International Atomic Energy Agency, I feel that, like the Non-Proliferation Treaty, there are limits to what it can do. Like most international agencies, it is dependent on consensus of members, who have divergent interests and it cannot function as an effective preventive or as an agency which we can look to to engage in sanctions in event of violation.

Those are the negatives. Like the Non-Proliferation Treaty, however, the agency is a very valuable asset, where I hope we will continue to use our best efforts to strengthen at the same time that we supplement it by a very careful American policy in concert with other countries to see that proliferation is indeed discouraged and not helped.

Senator CRANSTON. Thank you very much. You have been very helpful.

Senator Pell.

Senator PELL. May I say how much we miss you in Washington, your clarity and your experience, and your views greatly helped those of us in this field when you were stationed there. We miss you.

But from the applause, I gather you're not without honor in your own State either. I was wondering if you would enlighten us a little on what the effects of the ratification of the Threshold Test Ban Treaty and the Peaceful Nuclear Explosions Treaty would be upon the general course of arms control?

Dr. FARLEY. Again, I think I could generally endorse by reference what Dr. Drell said. I think that the Threshold Test Ban Treaty, the Peaceful Nuclear Explosives Treaty both offer some useful contribution.

First, in the reestablishment of the process of continuing to negotiate acceptable further limitations. I do not know when we can hope to reach the goal of the comprehensive test ban. It does seem to me something further can be done, not only to limit the size of underground tests, but the number.

I would, myself, favor a diminishing quota approach, but I think the concept of arms control process is important if we are to establish momentum.

Now, if we are going to do that, it has to be done on a basis which we can have confidence and the Threshold Test Ban Treaty has some quite interesting innovations with regard to verification and thus responds to one of your earlier questions, as to what can we do to make verification more effective.

Now, the things we can do, among others, are a better and freer exchange of data so that verification has something to be applied to. There are quite detailed provisions for exchange of data in a useful way, and I think this has implications for future SALT negotiations.

Similarly, cooperative measures, that is, things which each side does to facilitate the national means of verification of the other, that is also part of this treaty and a useful process.

Senator PELL. Following that thought up, are there any unorthodox methods of verification which you are studying in Stanford?

Dr. FARLEY. I wish I could offer you something, but I'm afraid I can't.

Senator PELL. Practically the last time I was in San Francisco was in 1945 at the time of the United Nations conference. We worked hard for 4 months to try to create a world that presumably would have arms control in it, the lack of wars. The basic rule of thumb there was that anything the League of Nations did we would do 180 degrees differently so as not to make their errors. I'm not sure that that worked out as well as we had hoped. But how do you account, from your own experience, for the fact that the U.N. is playing a very, very limited, if any role at all, in the field of arms control in these years in between?

Dr. FARLEY. Senator Pell, the United Nations like every organization happens in history, and it happened at the end of World War II when we foresaw a time when the victorious powers were really going to dominate the world and when we did not foresee the explosion of new states which has been, I think, one of the most healthy and inspiring things that have happened in the last 35 years, but which has vastly complicated the process of developing international organs which can reflect the interest of all this diverse group of states, many of whom start from a very unequal position and, therefore, have particular claims to press.

I do not claim vast wisdom in this area for the United States and the other countries in dealing with this totally novel situation. So, I think the United Nations has been forced to deal with a situation which is not inconsistent with the charter, but much of which was not anticipated and where we are in a long process of working out how these 155 nations do work together again to try and find some common interests rather than use an organ which was originally set up for the ambitious purposes you describe, which is generally since then in its central functions been used by States to try to advance their national interests.

I, by no means, am in despair about the United Nations. I think it is very useful now. As everyone says, if you didn't have it, you probably would not only want to invent it, you would find it very difficult. So, I think it exists, its basic structure is sound, and it's going to involve increasingly to a larger role in these respects.

Senator PELL. I agree with you and share your regard for the U.N. As you say, if it did not exist, we would have to invent it. And we always lose sight of all the good it's done. We are just aware of the things it has not done.

Thank you.

Senator PRESSLER. We thank you very much for your time and your effort and I think all of the witnesses deserve credit for their thoughtful statements and we thank you very much. [Applause.]

Next I call upon Dr. Peter Joseph, president of the San Francisco Bay Area Chapter of Physicians for Social Responsibility.

We will have time for 10 minutes of testimony from you, and time for questions.

Did you wish to say anything regarding this witness?

Senator CRANSTON. I'm delighted to welcome you, Doctor. I know you're president of the San Francisco Area Physicians for Social Responsibility. You're an internist and emergency physician at Natividad Medical Center in Salinas and assistant clinical professor of medicine at the University of California, San Francisco Medical Center, and director for the Pacific Region of Physicians for Social Responsibility.

The work of the physicians in bringing their medical expertise to bear on the incredible problems that would befall Americans and people in the Soviet Union and people elsewhere if nuclear catastrophe ever came is a very significant contribution to the effort to create public awareness of the dire nature of this problem and we thank you for that effort.

STATEMENT OF DR. PETER G. JOSEPH, PHYSICIANS FOR SOCIAL RESPONSIBILITY, FORREST KNOLLS, CALIF.

Dr. JOSEPH. Thank you, Senator.

Mr. Chairman, members of the committee, I deeply appreciate this opportunity to convey to you the growing depth and breadth of concern amongst the international medical community for the health consequences of nuclear war.

You are well aware of the explosion of public concern about the mounting likelihood of nuclear warfare worldwide. I believe that some of this anxiety has been catalyzed by public expressions of anxiety on the part of the medical community.

Our organization, for example, has presented a series of public meetings in major American cities entitled "The Medical Consequences of Nuclear Weapons and Nuclear War." I have submitted a list of these conferences that have taken place, and the ones that are coming up, in my testimony.

We are doing this under the belief that only an aroused and informed public, sensing a direct threat to its collective survival, will support the forces such as yourselves who are working toward nuclear arms control worldwide.

I would like to briefly document for you the growth of the concern in the medical community and discuss why we, as physicians, feel that the prevention of nuclear war is the No. 1 priority of organized medicine.

Our own organization, Physicians for Social Responsibility, 3 years ago had 10 members in Boston. It now has almost 10,000 organized in 102 chapters around the country.

Two years ago in California there was one chapter with two members. There are now 11 throughout the State and our chapter alone in the San Francisco Bay area has 1,000 members.

In addition, physicians from 12 nations met last year to form the International Physicians for the Prevention of Nuclear War. They agreed that nuclear war presented insurmountable obstacles to adequate medical response and that its prevention surpassed in importance any political differences.

The Soviet delegation, led by Dr. Chazov, Mr. Brezhnev's personal cardiologist, made good on their promise to disseminate the findings of this conference throughout the Soviet Union.

I have included in my testimony copies and translations of the articles that appeared in the Soviet newspapers, and I believe these articles dispel the notion of survivability to the Soviet people. We have complete copies of this document in our office.

The medical literature has taken up this debate and I have enclosed some of these articles. Medical schools have begun to teach courses on medical aspects of nuclear war. And lastly, thousands of practicing physicians such as myself have concluded that sound patient care and our professional oath requires that we inform our patients and colleagues about this most urgent health problem that the world has ever faced.

Thus, the American Medical Association declared on December 9, 1981, the following: Physicians are especially concerned about the medical consequences in the event of a thermonuclear war. Available data reveal that there is no adequate response to a nuclear holocaust. In targeted areas millions would perish outright, including medical and health care personnel. Additional millions would suffer severe injury, including massive burns and exposure to toxic levels of radiation without benefit of even minimal medical care. Medical and hospital facilities and other resources would likewise have been destroyed.

It is in a spirit of concern that the AMA Board of Trustees believes that it is encumbent upon this association to inform the President and the Congress of the United States of the medical consequences of nuclear war and that no adequate medical response is possible.

In a short 2 years, a progression of thinking and a transformation of opinion has occurred within the medical establishment, long known as apolitical, conservative and skeptical. Why?

Nuclear war is the ultimate medical problem. It would be a terminal event for our civilization. Prevention is the only answer and is the paradigm of conservatism.

Physicians are most skeptical of the notion that nuclear wars can be controlled, that the nuclear arms race would prevent rather than provoke nuclear war, and that human beings, fallible as they are, can coexist with these weapons indefinitely.

Given the medical facts, the illusion of civil defense is a dangerous placebo as it conveys a false sense of security. By spelling out the full-blown clinical picture, we hope to help mobilize public opinion worldwide to reject nuclear weapons, and by thus reframing the problem in medical terms, we hope to help cure this otherwise fatal disease.

Physicians are used to doing all that is possible despite the apparent gravity of the situation, and while in this case the prognosis ultimately is guarded, the final word has yet to be written, and in medicine there is always hope.

Now, in the interest of time, I'm going to abbreviate my remarks. I have been asked to sketch out an individual case. Doctors treat individuals, and the sanitized statistics of nuclear war convey nothing in terms that have real meaning to individuals.

We have to consider what happens to individuals. And as physicians who have long overcome our squeamishness at the sight of blood, I think that we can all contemplate this grizzly reality with a modicum of equipoise.

I would like you to turn, if you will, to a map that is in your packet, nine pages from the end, from the Arms Control and Disarmament

Agency showing the physical effects of a nuclear explosion of 1 megaton superimposed on San Francisco. It is reproduced on the map behind me.

A 1-megaton weapon is approximately half the yield of the weapons that were fired in World War II. A 1-megaton weapon in conventional explosives would take a freight train about 300 miles long to carry.

What would happen to San Francisco? Out to a radius of 1.5 miles, circle 1, blast overpressures would reach 20 pounds per square inch or almost 2½ tons per square foot, winds over 500 miles per hour. All structures would be pulverized and incinerated.

Out to circle 2 or 3 miles, the blast would exceed over half a ton per square foot and winds would be over 160 miles per hour. Brick and wood frame houses would be blown away, exposed flesh would be severely burned. Metal would melt, and office-type buildings would have their contents swept from within.

Six miles away, circle 5, that's all the way into the East Bay and into Tiburon, exposed skin would suffer third-degree burns, light fabrics and dry leaves would burst into flame.

And in the final circle, circle 6, at 8½ miles away, at the outer edge of the circle encompassing 227 square miles, overpressures would be almost 300 pounds per square foot, houses would be damaged and 50 percent of those exposed would suffer partial thickness burns, which cause painful blistering and loss of fluid.

Even at 10 miles, overpressures of less than 2 pounds per square inch, well into Mill Valley where Senator Hayakawa lives, glass windows would be transformed into showers of sharp particles that would cause deep lacerations and penetrating wounds.

What would be the human toll? The Arms Control Agency has superimposed these effects on census tracks in order to calculate roughly what would happen to the population base of San Francisco.

Of a population base of 3.6 million persons, this single bomb could cause 930,000 casualties, of which two-thirds would be immediately fatal.

The numbers would be higher on a working day because of large commuter influx and higher yet in the event of fire storm, which would augment the lethal area. And I would think a fire storm in a dry California summer, a fire storm might consume this State.

Because nuclear weapons are small suns, major burns predominate as the largest problem facing doctors after nuclear attack. Burns are the most difficult injury to treat because they require more time, equipment and personnel than almost any other medical problem and still the results are poor.

The entire U.S. medical care system, lavish as it is, can accommodate fewer than 2,000 acute burn patients. In a single explosion over one metropolitan area might produce 10 to 100 times that number.

Burns would appear also in combination with traumatic injuries of all kinds due to the blast effects. Thousands of patients in the periphery of the blast would have fractures, lacerations, ruptured internal organs, spinal cord injuries, hemorrhage, shock, dehydration and possible retinal burns because those unfortunate enough to glance at the exploding fireball may be blinded either temporarily or permanently from retinal damage.

In fact, according to Glasstone and Dolan, "The Effects of Nuclear Weapons," a 10-megaton bomb detonated at 50,000 feet at night could blind people up to 150 miles away.

Who will care for these patients? We are used to thinking in terms of help being on the way. In the case of nuclear war, there will be no outside help. In Hiroshima, 91 percent of the doctors and nurses and 93 percent of the hospital beds were destroyed by a bomb with a yield of one-seventieth of that which we have just dropped on San Francisco.

Using that figure, fewer than 2,000 doctors and hospital beds would be available for 300,000 seriously wounded persons. It is, furthermore, preposterous to assume that remaining medical personnel would either be willing or able to function in the environment of total chaos, panic, fire, radiation, absent transportation, communication and supplies.

None of the complex accoutrements of contemporary management of these complex medical problems would be available in the quantities needed for adequate medical response.

Most of the wounded would die without so much as a shot of morphine to ease their pain and, of course, this depressing senario would probably repeat itself in every urban area in the northern hemisphere.

Thus, the American Medical Association is quite correct in saying that no adequate medical response is possible in a nuclear war.

I would further point out that the collapse of organized medicine in the face of this disaster serves as but one example of the social collapse that would ensue. And I believe that Americans are particularly ill prepared to plunge themselves back into conditions that more resemble medieval society than the United States of America.

I shall dwell very briefly on medical problems of the postattack period. There's the problem of radiation sickness. I shall summarize that by saying radiation sickness can be treated, but it is a high technology enterprise. I have appended in my testimony the suggested approach to infection control. It requires intensive care and other high technology benefits. These would be unavailable.

The cancer rate will increase. Where will these people receive surgery and chemotherapy following a nuclear war?

I'm particularly upset about the possibility of irradiation of human genetic pool because the human genetic pool is our crown jewels. They make us what we are as the dominant organism on this planet. Any act of assault on the human genetic pool is an act of biological suicide.

No previous society has had the capacity to threaten a human gene pool; and to do so is an act of unbelievable irresponsibility.

Another medical problem is the likelihood of epidemic disease, and this is one that is not discussed very much. Recovery after nuclear war depends upon a population that is sufficiently vigorous to engage in a race with starvation.

Unfortunately, the very conditions that are necessary to salvage large numbers of people from blast and fire are a setup for epidemic disease. And I'll tell you why.

In targeted areas there will be millions of rotting corpses, both human and animal. They will provide a breeding ground for insects, which are 1,000 times more radiation resistant than mammals.

The birds will be killed. Bacteria and virsuses may mutate into more virulent strains to which we have no prior immune experience. Survi-

vors will exist in crowded, poorly ventilated subterranean shelters. Sanitation will be minimal.

Exposure to radiation will weaken the immune response, suppress the white blood cell count, and possibly cause ulceration of bowel mucosa which promotes bloodstream invasion by virulent organisms. Malnutrition, physical hardship, psychological stress will further impair immunity to infection.

Doctors, laboratories, vaccines, antibiotics, clean water, adequate sewerage will all be absent or inadequate. Contact with rodents and wild animals will be unavoidable. Under such conditions, outbreaks of infectious disease are practically certain.

Plague, tuberculosis, infectious diarrhea, pulmonary infections, rabies, hepatitis, polio, diphtheria, meningitis and many other infectious diseases will decimate the surviving population just as the Black Death did 600 years ago.

In fact, in a recent study published in the New England Journal of Medicine, which I include, Dr. Herbert Abrams discusses this problem in detail and cites a computer model of a single nuclear explosion 9 miles south of New Orleans which predicts that, in the absence of medical countermeasures, 35 percent of the survivors would die from infectious diseases in the first year after the attack, whereas the cancer mortality would involve no more than a few percent.

As one who has experience in just how delicate living systems are, I'm profoundly frightened, for nuclear war is basically an assault on the biological balance upon which life depends.

In an apropos of Senator Cranston's question to Dr. Farley about finding new ways of looking at this problem, I would like to suggest that within this very grim clinical picture exists the seeds of cure.

We physicians view nuclear war as an urgent medical problem with obvious and heretofore intractable, I believe, political complications.

We would like to facilitate a change in thinking about this problem from one that views it as primarily a political one with unfortunate biological side effects.

If viewed as a disease, there is no reason to believe that it is not as curable as other diseases such as smallpox, which medical science has eliminated from the face of the Earth. The elimination of smallpox required, first, a consensus that smallpox was biologically unacceptable. The money, research and international cooperation then followed.

We must create the same consensus about nuclear weapons. They are biologically unacceptable. They must be eliminated. They must be seen as agents of death, devastation and disease rather than as useful tools of self-defense.

The political aspects of this syndrome are secondary to these fundamental biological concerns. I believe that if we could change our perspective in this way, the problem would be much more tractable. [Applause.]

Finally, human beings have abruptly brought themselves to a threshold. We are in a bifurcation in our evolution at this time. One path leads to the further flowering of science and the proof that human intellect has survival advantages. The other leads to utter ruin.

As one who daily uses the fruits of our intellect for human well-being and who realizes that medical science is on the verge of amazing

feats as we apply computers and molecular biology to solving medical problems, I'm convinced that human intelligence does, in fact, have survival advantage, but only if nuclear war is prevented.

The medical establishment is mobilizing. We hope that the leaders of the world will seek our counsel in questions of medical importance. We intend to continue to make nuclear war a subject that is psychologically real in order to generate the public support that you, our leaders, need in order to resist the enormous momentum of the nuclear arms race. And the reason that so many established physicians have responded so quickly is that time appears to be uncomfortably short.

Thank you. [Applause.]

Senator PRESSLER. Thank you very much, and let me say that I think it's well that we are aware of the dangers. The American Medical Association has taken it upon itself to put this information forth; is that correct?

[Dr. Joseph's prepared statement follows:]

PREPARED STATEMENT OF DR. PETER G. JOSEPH

Mr. Chairman, members of the Committee: I am Peter G. Joseph, M.D., president of the San Francisco Bay Area Chapter of Physicians for Social Responsibility and assistant clinical professor of medicine at the University of California, San Francisco Medical Center. I practice emergency and internal medicine.

I deeply appreciate the opportunity to convey to this body the growing depth and breadth of concern amongst the international medical community for the health consequences of nuclear war.

You are well aware of the explosion of public concern about the mounting likelihood of nuclear warfare. The anxiety expressed by physicians has helped catalyze this. Our organization has presented a series of public meetings in major American cities called "The Medical Consequences of Nuclear Weapons and Nuclear War," which has helped people appreciate the magnitude of events which none of us can fully imagine. (A list of locations and sponsoring medical institutions is attached.) We do this under the belief that only an aroused public, sensing a threat to its survival, will support the forces which are working towards nuclear arms control worldwide.

I would like to document for you the growth of concern in the medical community and discuss why we as physicians feel that the prevention of nuclear war is the number one priority of organized medicine.

Our own organization, Physicians for Social Responsibility had about 10 members in Boston three years ago. It now has almost 10,000 in 102 chapters around the country. California had one chapter two years ago and now has 11. Our chapter has 1000 members.

Physicians from 12 nations met last year to form the International Physicians for the Prevention of Nuclear War. They agreed that nuclear war presented insurmountable obstacles to adequate medical response and that its prevention surpassed in importance any political difference that might exist. The Soviet delegation, lead by Dr. Chazov, Mr. Brezhnev's cardiologist, made good on their promise to disseminate the findings of the conference. I have included copies and translations of the articles that appeared in Soviet newspapers. They dispell the notion of survivability.

The medical literature has also taken up this debate. Major articles have appeared in many of our leading medical journals. Copies of some of these are included.

Medical schools have begun to include the topic of the medical aspects of nuclear war in their curriculum and have cosponsored our educational symposia with enthusiasm. The list of physicians involved reads like a segment of Who's Who in American medicine. For example, last August, 71 physicians members of the National Academy of Sciences including seven Nobel laureates expressed their concern in a public statement. The list of signatories is attached.

Lastly, thousands of practicing physicians like myself have concluded that sound patient care and our professional oath requires us to inform our patients and colleagues about the most urgent health problem the world has ever faced.

Thus, the American Medical Association recently declared:

(Physicians) "are especially concerned about the medical consequences of in the event of a thermonuclear war. Available data reveal that there is no adequate response to a nuclear holocaust. In targetted areas, millions would perish outright including medical and health care personnel. Additional mil ions would suffer severe injury, including massive burns and exposure to toxic levels of radiation without benefit of even minimal medical care. Medical and hospital facilities and other resources would likewise have been destroyed.

"It is in a spirit of concern that the AMA Board of Trustees believes that it is incumbent upon the Association to inform the President and the Congress of the United States of the medical consequences of nuclear war and that no adequate medical response is possible." (Resolution DD, presented by Joseph F. Boyle, M.D., Chairman, AMA Board of Trustees; adopted by overwhelming voice vote, December 9, 1981.)

In a short 2 years a progression of thinking and a transformation of opinion has occurred within the medical establishment, long known as apolitical, conservative and skeptical. Why? Nuclear war is the ultimate medical problem. It would be a terminal event for our civilization. Prevention is the only answer and is the paradigm of conservatism. Physicians are most skeptical of the notion that nuclear wars can be controlled, that the nuc'ear arms race will prevent rather than provoke nuclear war and that human beings, fallible as they are, can coexist with these weapons indefinitely. Given the medical facts, the illusion of civil defense is a dangerous placebo, as it conveys a false sense of security. By spelling out the full-blown c'inical picture, we hope to help mobilize public opinion worldwide to reject nuclear weapons, and by thus reframing the problem in medical terms we hope to help cure this otherwise fatal disease. Physicians are used to doing all that is possible despite the apparent gravity of the situation. While the prognosis in this case is guarded, the final word has yet to be written, and in medicine there always is hope.

What are the medical realities of nuclear war? The sanitized statistics convey nothing in terms that have real meaning. One must consider individuals in order to affect individuals. Physicians treat individuals and are qualified to discuss what happens to them in a nuclear war. We have long since overcome our natural squeamishness and can contemplate this reality with a modicum of equipoise.

Take this city as an example. Surely it is targeted, being surrounded by military facilities. What would happen if just one of the Soviet's 6,000 one-megaton thermonuclear bombs were to explode over downtown San Francisco? What would become of our population system of medical care and biological environment?

I refer you to the enclosed map provided by the U.S. Arms Control and Disarmament Agency ("Effects of Nuclear Explosions on Selected American Cities"). (Appendix E)

For a 1-Megaton airburst the following physical effects occur:

Out to a radius of 1.5 miles, blast overpressures would reach 20 pounds per square inch, or almost 2½ tons per square foot; winds would reach 500 miles per hour. All structures would be pulverized and incinerated.

Out to three miles, blast would still exceed over half a ton per square foot and winds would be over 160 miles per hour. Brick and wood frame houses would be blown away and exposed flesh severely burned. Metal would melt, office-type buildings would have their floors and contents swept from within.

Six miles away, exposed skin would suffer third degree burns, light fabrics and dry leaves would burst into flame.

Eight and one half miles away, at the outer edge of a circle encompassing 227 square miles, overpressures would be almost 300 pounds per square foot, houses would still be damaged, and 50 percent of those exposed would suffer partial thickness burns, with painful blistering and loss of plasma.

Even at ten miles, at overpressures of less than 2 pounds per square inch, glass windows could be transformed into showers of shards that would cause deep lacerations and penetrating wounds.

The Arms Control and Disarmament Agency has superimposed these known effects on census tracts in order to calculate roughly the casualty rates. Out of a population base of 3.6 million, this single bomb would cause 930,000 casualties, of which two-thirds would be immediately fatal. The numbers would be higher during a working day because of the large commuter influx, and higher yet were there to be a firestorm, which would augment the lethal area. Regardless of these uncertainties, one can still imagine the kinds of injuries and medical response that survivors might attempt.

Because nuclear weapons are small suns, major burns predominate as the largest problem facing doctors following nuclear attack. Burns happen to be the most difficult injury to treat because they require more time, equipment and personnel than almost any other medical problem, and still the results are less than optimal. The entire United States medical system can accommodate fewer than 2,000 acutely burned patients, and a single explosion over a metropolitan area might produce 10 to 100 times that number. Burns would appear also in combination with traumatic injuries of all kinds due to the blast effects. Thousands of patients in the periphery of the blast would have fractures, lacerations, ruptured internal organs, spinal cord injuries, hemorrhage and shock, dehydration and possible retinal burns. Those unfortunate enough to glance at the exploding fireball may be blinded, either temporarily or permanently, from retinal damage. (According to federal publications, a 10 megaton bomb detonated at 50,000 feet at night could blind people up to 150 miles away.)

Who will care for these patients? We are used to thinking in terms of help being on the way. In the case of nuclear war, there will be no outside help. In Hiroshima, 91 percent of the doctors and nurses and 93 percent of the hospital beds were destroyed by a bomb with a yield of 1/70 of that we have just dropped on San Francisco. Using that figure, fewer than 2,000 doctors and hospital beds would be left for 300,000 seriously wounded persons. Furthermore, it is preposterous to assume that remaining medical personnel would be either willing or able to function in an environment of total chaos, panic, fire, radiation, absent transportation, communication and supplies. None of the complex accoutrements of contemporary management of these medical problems would be available in the quantities needed for adequate medical response. Most of the wounded would die without so much as a shot of morphine to ease their suffering. This depressing scenario would probably repeat itself in every urban area in the northern hemisphere. Thus, the American Medical Association is correct in saying that "no adequate medical response is possible" in a nuclear war. And the collapse of organized medicine serves as but one example of the social collapse that would ensue. Americans are ill prepared to plunge themselves back into conditions that resemble medieval society.

Medical problems of the post-attack period are no less formidable and surviving doctors will be no better prepared.

Survivors exposed to radioactive fallout risk development of radiation sickness, which spans a syndrome from mild nausea and diarrhea to profound bone marrow depression, cholera-like bloody diarrhea, overwhelming infection, hemorrhage and lingering death. We know how to support patients so afflicted, but to do so requires high technology and intensive care facilities which will be unavailable. (Appended is a summary of a suggested approach to the control of infection in radiation sickness taken from "The Final Epidemic: Physicians and Scientists on Nuclear War," Educational Foundation for Nuclear Science, Inc., 1981, page 146.)

After a few years, an increase in the cancer rate is expected. The rate of acute leukemia increased 20 fold in children exposed to the Hiroshima blast, and that was an airburst which created little fallout. Contemporary nuclear war would almost certainly create enormous quantities of radioactive fallout which would irradiate survivors both directly and by eventually migrating into their internal organs, including the gonads, where irradiation of our genetic material would cause mutations. Mutations cause genetic disease in offspring and would be felt for many generations.

Any assault on the human genetic pool is an act of biological suicide. No previous society has had the capacity to inflict genetic diseases upon their descendent until now. To threaten to do so is an act of unbelieveable irresponsibility.

Another medical problem is the possibility of epidemic disease amongst survivors. Recovery after nuclear war depends upon a sufficiently vigorous population engaged in a race with starvation. Unfortunately, the very conditions necessary to salvage numbers of citizens from blast and fire are those which increase the likelihood of epidemic disease.

In targetted areas, millions of rotting corpses, both human and animal, will provide a breeding ground for insects, which are a thousand times more radiation resistant than mammals. Bacteria and viruses may mutate into more virulent strains to which we have no prior immune experience. Survivors will have to exist in crowded, poorly ventilated subterranean shelters. Sanitation will be minimal. Exposure to radiation will weaken the immune response, suppress the

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white blood cell and count and if sufficiently high, cause ulceration in the bowels, which promotes blood stream invasion by virulent bowel organisms. Malnutrition, physical hardship and extreme psychological stress will further impair immunity to infection. Doctors, laboratories, vaccines, antibiotics, clear water and adequate sewerage will all be absent or inadequate. Contact with rodents and wild animals will be unavoidable.

Under such conditions, outbreaks of infectious diseases are practically certain. Plague, tuberculosis, infectious diarrhea, pulmonary infections, rabies, hepatitis, poliomyelitis, diphtheria, meningitis, and many other infectious disease will decimate the surviving population just as the Black Death did six hundred years ago. In a recent study published in the "New England Journal of Medicine" (vol. 305 No. 20, Nov. 12, 1981, page 1226) and appended herein, Dr. Herbert Abrams discusses this problem and cites a computer model of a single nuclear explosion nine miles south of New Orleans which predicts that, in the absence of medical countermeasures, 35% of the survivors would die from infectious diseases in the first year after the attack, whereas the cancer mortality would involve no more than a few percent.

Yet another worrisome problem stems from the potential increase in solar ultra-violet radiation striking the Earth's surface as a result of damage to the ozone layer. I know there is controversy surrounding the extent to which this filter would be damaged. The uncertainty does not reassure me. Increasing ultraviolet exposure would increase the incidence of skin cancer, including malignant melanoma, one of the more virulent of cancers, and might also cause corneal damage to exposed eyes. Were terrestrial animals to be blinded by corneal scarring the ecosystem would suffer profound alterations.

As one who has experience with just how delicate living systems are, I am frightened, for nuclear war is basically an assault on the biological balance upon which life depends.

In conclusion, I would like to suggest that within this very grim clinical picture exists the seeds of cure. We physicians view nuclear war as an urgent medical problem with obvious and heretofor intractable political complications. We would like to facilitate a change in thinking about the problem from one that views it as a political one with unfortunate biological effects. If viewed as a disease, there is no reason to believe that it is not as curable as other diseases, such as smallpox, which medical science has eliminated from the face of the Earth. The elimination of smallpox required first a concensus that it was biologically unacceptable. The money, research and international cooperation required then followed.

We must create the same concensus about nuclear weapons. They are biologically unacceptable. They must be eliminated. They must be seen as agents of death, devastation and disease rather than useful tools of self-defense. The political aspects of this syndrome are secondary to these fundamental biological concerns. I believe that if we could change our perspective on this problem in this way, the problem would be much more tractable.

Human beings have abruptly brought themselves to a threshold, to a bifurcation in their evolution. One path leads to the further flowering of science and proof that human intelligence has survival advantage. The other leads to utter ruin. As one who daily uses the fruits of our intellect for human well-being, who realizes that medical science is on the verge of amazing feats as we apply computers and molecular biology to solving medical problems, I am convinced that human intelligence does in fact have advantage. But only if nuclear war is prevented.

The medical establishment is mobilizing. We hope the leaders of the world will seek our council in questions of medical importance. We intend to continue to make nuclear war a subject that is psychologically real in order to generate the public support our leaders need to resist the enormous momentum of the nuclear arms race.

The reason so many established physicians have responded so quickly is that time appears to be uncomfortably short.

Dr. JOSEPH. I didn't hear your question.

Senator PRESSLER. The American Medical Association is quite active in this area. They are the group that is sponsoring your efforts.

Dr. JOSEPH. Yes, they are. And I think they will be more active in the near future. They have promoted the concept that it is our profes-

sional obligation as physicians to educate ourselves, our patients, and our leaders about the medical aspects of nuclear war. And this will be done, I believe, in context which is nonpartisan, nonpolitical, and strictly medical.

Senator PRESSLER. Do you believe that the Government of the U.S.S.R. will provide a public relations campaign comparable to yours? I think what you're doing is very good.

Is your group doing anything to urge that this be done in all countries of the world?

Dr. JOSEPH. I can't speak for the leaders of the Soviet Union as to why they permitted their top physicians to travel to Airlie House near Washington last March; and they will again to Cambridge, England, in April for the second conference of this International Physicians for the Prevention of Nuclear War, nor can I speculate as to their reasons for disseminating the findings in their country, I believe, more widely than they were disseminated in ours. However, I believe it dispels the notion, as some critics have suggested, that the Soviet Government is preparing their population for nuclear war and is trying to convince them that it's survival. And I have included reprints of these articles with translations in your—in the appendage.

Senator PRESSLER. Thank you. I think you have been an excellent witness.

Let me say that I have to step out to make a phone call for a couple of minutes.

We have reached an agreement if there are those from the audience who feel strongly that they wish to orally testify, they can do it for an absolute 2-minute limit, although we'll take written statements. They should—if they're representing a group, state the name of the group. I'll turn it over to Senator Cranston.

Senator CRANSTON. Thank you very much, Doctor, for very helpful testimony. You covered the subject so thoroughly that there is really not much to ask you, but I do have two questions I'd like to propose to you.

First, let me recite three statements that I have encountered during the past year. We were having a hearing of the Foreign Relations Committee on the confirmation of Eugene Rostow, appointed by President Reagan to be head of the Arms Control and Disarmament Agency.

Senator Pell, seated to my left, asked Dr. Rostow the question about how devastating nuclear war would be if it came. Dr. Rostow replied, and this is almost an exact quote, "Well, Hiroshima recovered and life went on."

Senator Pell asked another question which was, "How many people do you think would perish if we had an all-out nuclear war between ourselves and the Soviet Union?"

And Dr. Rostow replied, "Well, perhaps 20 million would perish on one side and 100 million on the other side, but life would go on."

A few days ago Robert Scheer in the Los Angeles Times quoted a high Pentagon official as stating that the United States could recover from a full-scale nuclear war within 4 years.

I would like your comments on those views.

Dr. JOSEPH. It's difficult to make serious responses to those kinds of irresponsible statements. [Applause.]

I believe that anyone who is conversant with the sheer facts of what these weapons do could not possibly believe that modern contemporary nuclear warfare would be anything like what happened in Hiroshima.

Specifically, that bomb was a firecracker compared to what we have now. That was a 13-or-so kiloton bomb. The social fabric was not torn asunder. There was no general nuclear war. Help came from outside almost immediately.

Contemporary nuclear warfare would be utterly and totally different and I'm afraid that the kind of thinking that that kind of statement represents is what might be called prenuclear thinking.

I see it as a defense mechanism, frankly, against the horrible scenario that would really occur, against having to truly and seriously consider it in one's heart, in one's emotions, because to be in a position of such power, given the arsenals of the world, is a very terrifying experience. And I would hate to think that our leaders revert to a more comfortable way of thinking about these weapons which is totally inappropriate.

As for recovery in 4 years, I have not read that scenario and I'm not really qualified to comment upon it. I think it's based on assumptions which are ridiculous at best.

Senator CRANSTON. Thank you very much.

Second question, the same article by Robert Scheer indicated that the Reagan administration is considering embarking on a large-scale and very costly civil defense effort to develop bomb shelters and make evacuation plans and so forth.

Do you believe that evacuation and bomb shelters could significantly reduce the vulnerability of Americans to nuclear war?

Dr. JOSEPH. Again, it depends on the assumptions you make about warning times, the nature of the attack and human behavior. I take no comfort in the thought that there might be civil defense crisis relocation.

I don't think people would behave in anything that is a predictable manner. I think that once we have tested such a system, if our adversaries wish to, they could easily allocate a small fraction of their warheads for the areas that are targeted to receive the evacuees.

Furthermore, I think that crisis relocation begs the crucial fact of what happens to the social fabric. What would happen if we picked up the population of San Francisco and moved them to Humboldt County, which is apparently the plan, and then destroyed San Francisco? What would these people come back to? What would they eat?

We are a society that is particularly used to having services provided to us; we are not pioneers any longer. I can't see too many people that I know digging 6 foot underground shelters very easily either, especially in the winter. So, I think these assumptions that things are possible are very farfetched and utterly unconservative; and in the opinion of the American Medical Association, apparently civil defense will not significantly alter the disasterous outcome of a general nuclear war.

I would, furthermore, wonder whether such an act may be provocative. In other words, how would we respond if we saw the Soviet Union emptying their cities? And it might bring on the very war we are trying to prevent.

Senator CRANSTON. Thank you very much.

Senator PELL. Thank you very much, Dr. Joseph, for your presentation.

I think I just saw a similar presentation by a group from Rhode Island, very similar group of doctors there getting activated and I hope this is going on all over our country; is that correct?

Dr. JOSEPH. It certainly is. The growth of this organization——

Senator PELL. How many groups do you have so far?

Dr. JOSEPH. There are 102, at last count, chapters or chapters in formation all over the United States and about 10,000 members at this time.

Senator PELL. How active in the Soviet Union do you feel the same movement is? You mentioned earlier that the doctors were permitted to come and travel to Airlie House to attend your meetings.

Dr. JOSEPH. I do not know what has happened in the Soviet Union since the publication of the documents that I have included in my testimony. There was, however, a talk given in Toronto on December 4, at the PSR conference by a Dr. Kuzin, who was part of the original delegation who spoke on the physicians' movement within the Soviet Union.

I haven't seen that talk and I can certainly provide that to you, if you would like.

Senator PELL. You touched on the fact that they were prepared for nuclear war and they obviously are with their fallout shelter program that they have, which is very far advanced.

Do you feel that part of the reason for the Soviet Government pressing in this direction, letting their doctors out, is to prepare their people for nuclear war?

Dr. JOSEPH. If you read the statements that have come out from the physicians, basically they're saying that their civil defense effort is a sham, that there is no way to prepare for nuclear war, and no way to survive it.

The CIA doesn't think much of the Soviet's civil defense program and they commented that they have never tested it. They have never had an evacuation. And that they, the CIA, believe the Soviet Government does not have enough faith in it to embolden them—I think that's their world—to provoke a nuclear war.

If that's the case, then they have wasted a lot of money and I would hope we wouldn't pour that amount of money into an equally fruitless civil program.

The whole thing of civil defense completely begs the question of the biological aspects of this. To save people when they will be decimated by plague and tuberculosis. What kind of civil defense is that?

Senator PELL. I know Switzerland, I believe, has the most advanced program now. You're probably familiar with it, but you cannot build a new house, new apartment house, new building without a fallout shelter, and food and supplies for a month.

Do you think that's having a sociological impact on Switzerland, this program, or is it having any effect one way or another?

Dr. JOSEPH. I believe that the Swiss do not consider themselves to be directly targeted with nuclear weapons, and are worried mainly about the fallout from France and Germany.

Senator PELL. Speaking of fallout, I have heard the story that if all the nuclear weapons in both arsenals were expended, exploded,

that the radioactive fallout in the Northern Hemisphere would be such that life would be untenable for a period of time, weeks or months; is that correct or not?

Dr. JOSEPH. It certainly is. Contemporary nuclear warfare would undoubtedly involve strikes that are detonated near the ground in order to take out ICBM silos and other hard targets by excavating huge holes in the ground and converting them to radioactive fallout. The fallout problem is enormous.

Dr. Drell is the expert here on that. And if you look at the maps that have come out on the fallout patterns, it leaves practically no area of the country untouched. Of course, it blows around in the wind like snow, so areas will have varying amounts of radioactive fallout.

People must then be equipped with radiation detection equipment in order to know whether they're in an area that's hot or not.

Senator PELL. You mean there would be some spots that would not be covered?

Dr. JOSEPH. Well, the conventional wisdom of the OTA is that northern California is the place to be during world war III. I understand the survivalist movement has focused on that and southern Oregon because it doesn't have significant military targets and it's downwind from no place nearby that would be targeted.

Senator PELL. Thank you. Keep up your work, Doctor.

Dr. JOSEPH. Thank you very much.

Senator CRANSTON. I want to thank the Doctor and all the witnesses for their very constructive and helpful testimony.

We will now provide a brief opportunity for any who wish to speak very briefly, not more than 2 minutes, on the matter before us.

We will have to enforce the time limit because there is limited time that we will be able to carry on this hearing.

First witness is now here.

Would you please identify yourself? Give your name and address and any organization you represent.

Mr. SAEMANN. My name is John Saemann. I live at 2037 Central Avenue, Alameda, Calif.

The city of Alameda, home of the naval air station, has adopted a proclamation condemning the threat of nuclear war and it is joined, I believe, by more than three other cities and counties in the State issuing this proclamation. The statement I wrote out while I was sitting in the audience is very brief.

While recognizing the importance of carefully listening to lengthy testimony, our impatience for the lack of urgency to stop the insanity of accelerating preparation for war, nuclear or conventional, must be expressed. The preponderance of risk seems to be on the possibility of war if the administration's present course is continued.

We would feel more secure were our policymakers to risk peace instead of war. Every new weapon system has only added to a greater risk of war and broader response in kind from the other side and by Third World nations which want to join the superpowers' rush to oblivion.

We feel less safe walking on our streets because of the diversion of resources including money toward war preparation and not genuine defense, instead of strengthening America and the free world through bettering the quality of life. Can you imagine the sigh of relief around

the world were the talented and highly paid scientists who are developing sophisticated weapons systems to direct their efforts toward new, safe energy sources and generally improve conditions on the planet Earth.

Let us be the first to reverse the present direction and challenge others to follow our example with or without all the inspection safeguards bandied about and spoken of as arms control. Let's have some insanity control and stop the war machine. [Applause.]

Senator CRANSTON. Would the next witness please come forward. Thank you very much. Welcome. Would you please give your name and address?

Ms. SNELL. Hello. My name is Carol Snell. I'm from the Livermore action group at 2110½ Ashby in Berkeley.

If the arms race is to be stopped, we must better understand the system that perpetuates it. One of the most overlooked contributing factors in the escalating arms race is the role of the nuclear weapons design labs. What is particularly dangerous is their pretense of impartiality. They're capable of designing nuclear weapons without assuming any responsibility for how they might eventually be used.

At the same time their autonomy makes them one of the single most powerful lobbies in the entire Nation. Their so-called impartiality and autonomy provide them with a cover for the highly secretive operation, influential in the formation of both public and foreign policy.

We are projecting a rally at Provo Park at Center and Grove Streets in Berkeley on January 30 at noon with Daniel Ellsberg and Dennis Banks for people who want to come out and express how they feel against nuclear weapons. That will be followed by a nonviolent blockade of Livermore Laboratory.

We are urging the people of Livermore to convert their laboratory to a peaceful alternative energy resource.

Senator CRANSTON. Thank you very much.

We welcome you.

Ms. BERGQUIST. Thank you. My name is Mary Bergquist. I speak for the Women's Party for Survival. By holding public hearings today, Senators, we thank you very much. You're doing a great service for your constituencies and for the American people. We thank you very much for this opportunity to be heard.

The Women's Party for Survival is a national political organization with over 50 chapters throughout the United States. Men, women, young, old, parents, and single people, we're dedicated to a single goal, stopping the nuclear arms race. We're dedicated, in other words, to survival to life.

How must one characterize the arms buildup? What words will describe our national policies and actions? Insanity, of course, or crazed, cracked, deranged, stark raving mad.

Look at the bombs we currently have, 9,000 strategic, 20,000 tactical, enough to destroy every Soviet city 35 times. Wasn't it Defense Secretary McNamara who in the 1960's said only 400 were enough. Consider also what's new in the works, the new generation of missiles that we've talked about today.

I'd like to bring up, however, one issue that has not been addressed today and that's the issue of cost. If you look at it in terms of only

one weapons system that we are building, the Trident, $66 billion is the estimated cost of the Trident system, not including overruns.

I think that we have a great responsibility to ask ourselves what fraction of that $66 billion would it take to buy back the cuts in medicaid, aid to families with dependent children, et cetera.

As far as the civil defense plan that President Reagan proposed last week, how much of the concrete that's going to be used in building those bunkers could be used to lay the foundation for housing for the poor and elderly. About 12,000 people in the world today die of hunger, 700 million are malnourished, 2 billion do not have adequate medical care, yet we choose as a country deliberately and consciously to spend our money on war.

Schizophrenia, I think, barely describes our outlook.

Thank you very much. This is the party of Helen Caldecott, who is also allied with the Physicians for Social Responsibility. Good luck to your committee.

Senator CRANSTON. Thank you very much.

Mr. JESELLA. Thank you for this time, I appreciate it.

My name is Peter Jesella. I am from San Jose, Calif. I would like to talk about the possibility of relocating the SALT talks from Geneva, Switzerland. to Hiroshima, Japan. I have been pursuing this concept for the last few months fairly vigorously.

I have with me two letters that I would like to read, one from Senator Cranston and one from Counselor Meese from the White House.

First the one from Senator Cranston.

> Thanks for getting in touch with me about your suggestion that future arms control talks be held in Hiroshima. I can well understand your concern. And I will be very glad to look into this matter for you. I have asked that the issues raised in your letter be given thorough consideration by the Arms Control and Disarmament Agency. As soon as I get an answer, I'll be back to you. I hope I can be helpful.

The letter from Counselor Meese goes:

> Thank you for your correspondence concerning your suggestion for locating any future SALT talks. We appreciate the time you have taken to write and you can be assured that your views and comments will be given careful consideration by the Administration.
>
> With best wishes, Edwin Meese.

Also, I have a letter here, this is a copy of the letter I sent to the two mentioned people and this was addressed to Ambassador Dobrynin of the Soviet Union to the United States. Also his was sent to Ambassador Okawara—I'm sorry, I'm pronouncing it wrong. He's the Japanese Ambassador to the United States. It was also sent to Ambassador Mansfield, who's the American Ambassador to Japan.

I hope in the future I receive some responses from these other sources. Part of the letter goes to the effect, as to the justifications of having the talks at Hiroshima as providing the proper atmosphere for this dialog.

The Soviet Union is very paranoid as to the capabilities and expectations of the Western World; and I believe by having them held at Hiroshima would provide the proper image for the world.

As William Naveral Herman has said, as we become more remote from the horrors of Hiroshima, there are doctrines of war fighting based on the fantasy of using nuclear destruction for some rationale

end. Efforts must be made to remove this remoteness. I propose that any new talks be held at Peace Park in Hiroshima.

Japan is the only country that has suffered the effects of nuclear destruction and survived. Japan's culture could play host to negotiations and provide a more proper atmosphere to the subjects to be covered. Thank you for your time.

Senator CRANSTON. Thank you for a very creative idea. [Applause.]

Mr. RAUK. My name is Steve Rauk, I'm the chairman of the Bay Chapter of the Sierra Club Disarmament Committee, a recently formed committee in the Sierra Club.

Sierra Club, along with other environmentalists, has become concerned about the possible impact of nuclear war as we have long been concerned about the impact of the nuclear technologies that we have developed over the last 36 years.

One item of concern that might be noted was talked about November over a year ago in the city by Constance Sippit from MIT in which he pointed out that if 10 percent of the weapons we expect to have in 1985 were used in a war at one time, it is believed that enough of the ozone layer would be destroyed so that no animal, insect, bird, or human being would be able to see without—by walking outside without glasses to protect themselves from ultraviolet rays getting through.

This, in addition to tremendous unknown ecological impacts on the environment from nuclear war, have concerned the environmental community.

As a result, the Sierra Club at its November board meeting in San Francisco passed the following resolution:

> Because the use of nuclear weapons in modern warfare would result in unprecedented destruction to the global environment on which the human and all other life depends, the Sierra Club expresses great concern over the lack of progress in completing nuclear arms reduction agreements and urges all nations by bilateral and multilateral agreements to halt any further development, testing and further deployment of nuclear weapons.
>
> We urge all nations to develop a long term program to reduce nuclear weapons stockpiles and we hope that progress for these issues can be made at the 1982 disarmament conference.

Senator CRANSTON. Thank you very much. [Applause.]

Senator PRESSLER. Let me just interject here, I do have to depart, but I do want to thank the witnesses we have heard. And I want to thank my colleagues and the people who are participating. We will resume tomorrow in Los Angeles and Monday in Sioux Falls. We will have to review the policy of bringing these hearings to the country, but if it's understood as an effort to heighten public awareness and collect information, I think it has been very successful thus far. And I thank my colleagues for staying.

Senator CRANSTON. Would you please proceed and identify yourself.

Mr. NEFF. My name is Ted Neff. I live in Davis, Calif. I'm the western regional field secretary for the Friends Committee on National Legislation, the religious society of Friends, the Quakers.

We have a lobbying program in Washington that has been there since 1943. I attended the hearings of this committee on November 9 in Washington and I couldn't resist the opportunity of speaking to you because at that time, there was only one of you in attendance, Senator Pressler, so with the addition of Senator Cranston and Senator Pell, we appreciate this additional opportunity.

I have no new testimony to add to that of Edward Snider, the executive secretary who testified on November 9. His time was extremely limited; however, his testimony is in the record which I have here.

And I would simply like to use this time to encourage you to read his testimony because it is the same in some respects, but in other respects clearly different in terms of the eight feasible alternatives that Edward Snider proposed. He did respond, I think, very clearly with a short statement to a question of Senator Pressler.

He said:

> Senator, I believe that Secretary Haig when he was pressed before this committee the other day in response to questions that were raised by the chairman, and I think perhaps also by Senator Glenn, finally said he believed that there now was "essential equilibrium," and that the United States has a "credible deterrent."

Well, we are always looking for that mythical point where we have more so they will give in to us and vice versa. We seem to be in a balanced area now to start a $180 billion program over the next 6 years, seems to me to be opening up a whole new range of cold war escalation.

So I would feel that we should stop right now, freeze right now, and go to the negotiating table as fast as possible.

Will you please read this testimony.

Senator CRANSTON. Thank you very much. [Applause.]

We're going to have to close the hearing shortly so the four people in line now will be heard and that will have to end the hearing.

Would you please come forward.

Mr. BOYD. My name is Billy Ray Boyd. I'm an instructor in the San Francisco Community College District, adult education programs, and I'm also chairperson of the Task Force of Education in the Nuclear Age which is a committee of my teachers union, American Federation of Teachers, local 2121, the sole bargaining agent for about 1,800 teachers in the district.

In November at our regular meeting we endorsed the nuclear weapons freeze campaign and created this task force to educate ourselves and educate the community at large. We have a position of statement, a position paper which I gave to one of your aides, Senator Cranston. I do want to mention that.

I just want to say that I think it's an incredible development that you would bring these hearings from Washington where the decisions usually take place and where the information is usually gathered, to bring that to San Francisco and I understand tomorrow to Los Angeles.

I hope that this is the first step in making Government more accessible to the people, so more direct input of the people will be available to the Government.

Senator CRANSTON. Thank you for your encouragement. Thank you. [Applause.]

Mr. GONCALVES. My name is John Goncalves. I'm a volunteer petitioner for the nuclear weapons freeze initiative here in California.

I'd like to make an announcement that as of Monday, over 200,000 Californians have signed the nuclear weapons initiative.

We are well on our way to obtaining the 350,000 required signatures. I would like to ask all of you to join me and all my friends in the streets collecting signatures. We need your help.

And Senator Cranston, if you haven't signed this initiative, I would love your autograph.

Senator CRANSTON. I'm all for it. Thank you. [Applause.]

Mr. ANDERSON. Carl Anderson, Berkeley, Calif. I have walked about 80 or 90 miles for peace the past year, done a lot of vigilanting. What concretely should the United States do about nuclear weapons.

Of the five invited witnesses, four, Quinn, Drell, May, and Farley have insisted on the necessity of bilateral disarmament. Joseph did not address the issue.

I'm sympathetic to the arguments in favor of the maintenance of nuclear armament. This is a world with hostile forces. But I do not see the possibility that the maintenance of nuclear weapons might be morally possible. Our opponents remain to be our brothers and sisters. And however they may act, we are not permitted to obliterate them.

One consequence of this must be mentioned, bilateral compromise arms control agreements are good and I support the negotiation process and any treaties such as SALT II. But insofar as the agreements are limited, they will require the maintenance of a large number of nuclear weapons.

You Senators may ask me, if you support, say, SALT II, will you support the rest of the compromise including maintenance of the remaining weapons? The answer is simply no.

I'm trying to place my ultimate reliance on our fellow humanity, that will forbid me from supporting the maintenance of any nuclear weapons.

Thank you for the opportunity to testify and I might mention that I'm a campaign contributor to your election campaign, Senator Cranston.

Senator CRANSTON. Thank you. Thank you very much for your testimony. [Applause.]

Mr. WILLIAMS. I'm Alfred Williams, a delegate to the Northern California Division of UNA chapters, also a member of the World's Citizens Assembly.

I have a letter here I have addressed to Senator Cranston which I won't read except for some excerpts.

May I suggest with respect to the subject of this hearing that the nature of the arms race and its effect on our planet and its inhabitants are subjects of far greater importance than the subject of the arms race's future or the arms race itself.

Toleration of the arms race is in itself a terrorist act, one of omission rather than commission, but a terrorist act nevertheless.

Economically, its maintenance represents a ripoff of the American taxpayer of gargantuan proportions and in a worldwide sense of every taxpayer in every other nation in the world, while depriving the world of improvements that could be realized in civilian life from civilian use of the funds now going into means of killing and destroying.

Socially, participation in the arms race constitutes a drain on public funds that might otherwise be available for the agencies responsible for better education, better health, public safety, and property protection facilities or adequate reservation of the environment, prevention

of pollution and/or cleaning up from the results thereof, and a host of other public services, including the problem maintenance of public utilities and other facilities such as bridges, dams, levees, and transportation and communication installations.

And spiritually, it needs to be said that the world's nations were not foolishly attempting to rely on violent, brute force, then the prostitution of today's technological wonders for what they considered to be their security, the financial, physical, material, and human resources they are squandering on immoral amplification of that brute force, could be used as described above.

Rather than concerning ourselves about the future of the arms race, we should be worrying about the future of the human race. One way of positioning ourselves to do that would be to admit that in today's interdependent world, there is no such thing as foreign policy, and it is urgently necessary for the world's nations to formulate Earth preserving global policies.

That calls for a revision of national policies that will permit sovereign states to pool their resources in a world authority capable of preventing criminal acts arising out of conflicts of interest that threaten the peace and deprive nations of the benefits to be derived from a system of justice, the antithesis of a war system.

I say no to the arms race. Let law and humanism overcome guns and militarism.

Thank you very much.

Senator PELL. Prior to winding up, I would like to, as a Senator from New England, express my gratitude to Senator Pressler for having shared these hearings and also to point out how honored we are that the minority whip of the Democratic Party in the Senate, Senator Cranston, is here. The esteem with which he is held outside of California, I think Californians probably think of him as the Senator from California, but we in the rest of the United States see him as a leader in the U.S. Senate.

I just want to make that point very strongly and express my own personal regard and affection for him.

Senator CRANSTON. I want to express my gratitude to Claiborne Pell for that very thoughtful statement, for his leadership in our committee and in the Senate on foreign policy matters and much else. I'm grateful to Larry Pressler for arranging this hearing.

And I thank each and all of you for your presence. Those of you who spoke, and those of you who did not, we deeply appreciate your interest in our common concern to prevent nuclear war.

This hearing now stands adjourned.

[Whereupon, at 1 p.m., the subcommittee adjourned, to reconvene at 10 a.m., January 21, 1982, in Los Angeles, Calif.]

THE FUTURE OF ARMS CONTROL

THURSDAY, JANUARY 21, 1982

UNITED STATES SENATE,
SUBCOMMITTEE ON ARMS CONTROL, OCEANS,
INTERNATIONAL OPERATIONS AND ENVIRONMENT OF THE
COMMITTEE ON FOREIGN RELATIONS,
Los Angeles, Calif.

The subcommittee met, pursuant to notice, at 10 a.m., in the auditorium of the Department of Water and Power, 111 North Hope Street, Los Angeles, Calif., Hon. Larry Pressler (chairman of the subcommittee) presiding.

Present: Senators Pressler and Cranston.

Senator PRESSLER. I will call this hearing to order.

It is a great pleasure to be here and we are anticipating a valuable hearing on one of the most critical subjects of our time, arms control and its role in national security and world peace.

I cannot overemphasize the significance of holding these hearings in various cities of the country.

As chairman of the Arms Control Subcommittee, I recommended this practice to Senator Percy in November in Washington during hearings on President Reagan's strategic weapons proposals.

Senator Cranston, the ranking minority member on the Arms Control Subcommittee, and I agreed that it would be appropriate to hold the first of these hearings in the States which we represent.

These regional hearings permit us to hear the opinion of agriculture, business, the religious community, labor, academe, and the general public on arms control issues, which is difficult to accomplish in Washington. It also permits us to hear experts on arms control issues who live in areas a distance from the Capitol, whose testimony is difficult to receive without great expense.

I do not want to belabor the obvious in discussing the overall importance of arms control. It should be enough to mention only the impact on world peace that a reduction or limitation on armaments makes.

Probably all of us are generally familiar with the arms races that preceded the First and Second World Wars and the catastrophes that those wars brought to civilization. We also know how much more deadly and destructive are the nuclear armaments in contemporary arsenals, and that the destruction caused during the preceding two world wars would be dwarfed by nuclear catastrophes.

We should also recall the roll that arms control plays in national defense. The huge budget deficits currently being discussed in this country provide sound reasons for avoiding staggering outlays for armaments if, and I emphasize "if," these arms control agreements provide comparable Soviet concessions which are verifiable.

I only mention two such agreements that contributed to our national security, the Anti-Ballistic Missile Treaty of 1972 and Treaty Banning Nuclear Tests in the Atmosphere in 1963.

Arms control contributes to the betterment of man by allowing resources to be spent on more productive investments, for example the expansion of agriculture to feed the growing population of the world.

I just returned from a trip to Poland on the food-for-peace mission and saw firsthand some of the difficulties that Poland has in feeding its population. We often forget that underdeveloped countries outside of the Third World also have serious agricultural and industrial problems.

I strongly believe the Reagan administration has contributed to arms control. I want to mention the accomplishments of the administration in the arms control area: The beginning of negotiations on theater or intermediate nuclear weapons in Geneva on November 30, earlier agreement to fully support Senate ratification of the nuclear freeze zone for Latin America, continuation of U.S. participation in the Madrid Conference on Security, and Cooperation in Europe meeting in Madrid, and the mutual balanced force reduction talks, meeting in Vienna.

I believe and have been one who has urged strongly not only this administration, but also the others in which I have served, to review carefully all other arms control possibilities, most prominently a new strategic weapons negotiation called START.

Recently I chaired hearings on "Yellow Rain," the use of biological weapons against the peoples of Southeast Asia, in violation of The Biological Weapons Convention of 1972, a convention without verification provisions. Such treaties are of great importance and we hope the Soviets and Cambodians and Afghans will allow international observers to look into the questions of "Yellow Rain."

I have many times observed that the Reagan administration is in a position to make a bold advance in arms control agreements. President Reagan, who has the trust of the more conservative groups in the country, may be able to accomplish things that a more liberal administration would have difficulty doing. It was, after all, Richard Nixon, a Republican, who was finally able to normalize relations with China.

Let me quote very briefly from President Reagan's November 18, 1981, speech on arms control:

> There is no reason why people in any part of the world should have to live in permanent fear of war or its spector. I believe the time has come for all nations to act in a responsible spirit that doesn't threaten other states. I believe the time is right to move forward on arms control and the resolution of critical regional disputes at the conference table. Nothing will have a higher priority for me and for the American people over the coming months and years.

Will these arms control efforts amount to something? Will the Soviets be reasonable? I am optimistic. Both the United States and U.S.S.R. face serious economic difficulties that would be eased by a cutback in arms expenditures. I can assure you from personal observation during my recent trip to Poland that that nation is in the direst of economic straits.

I believe that good sense will prevail among world leaders, and that sound arms control can contribute not only to world peace but also to national security.

There are many issues that face us regarding arms control, and I believe we should approach these on a bipartisan basis, and I appreciate very much the friendship and leadership of Senator Cranston. And it is fitting that our first hearings are in his State. I will submit for the record a statement of Senator Hayakawa, who could not be with us today. Without objection, it will be inserted following Senator Cranston's opening remarks.

Let me just set the tone for the hearing if I could. This is a U.S. Senate hearing and as chairman of it, I do ask your respect for difference of views. We will submit anyone's views as part of the record.

I think it's a part of our great tradition in this country. It is an experiment to hold field hearings of the Foreign Relations Committee, and I know that in my State there is a great deal of controversy. We all must listen to one another and work together for our views. This morning we will listen to the witnesses.

Let me say that we do have some time limitation, but these are very important witnesses and I would ask the audience to listen closely.

If you have questions that you wish to be submitted for the record, you may do so.

This is not a hearing where the audience asks questions, but we have made this special arrangement.

Also, anyone who wants to write a statement, a brief statement, is welcome to do so.

But the time limitation on the witnesses is such that we must proceed under those ground rules.

Let me say that I m pleased to be here with Senator Cranston. I'm a friend of both California Senators and work closely with both of them and I like both of them and they are both my friends.

Alan and I have worked together on this subcommittee, and we don't always agree, but we are working together.

At this time I yield to my colleague, Senator Cranston.

Senator CRANSTON. Thank you, Larry Pressler, for your friendship, cooperation, and your initiative in having this hearing in California. I welcome you to California and I'm grateful for you coming here for these hearings.

I thank each of you for your presence, your interest, for your commitment to this virtually important subject. I thank those who are going to be witnesses today.

I would like to make a very brief statement on two matters that are very relevant to this hearing.

Many Californians are deeply concerned about the nuclear arms race. The growing peace movement in our State and elsewhere in the Nation has focused on a proposal for a negotiated bilateral freeze on the nuclear arsenals of the United States and Soviet Union.

People may honestly differ about the practicality and the effectiveness of such a proposal. And one can argue about the details.

Those are matters for our negotiators and the Soviet negotiators to iron out. But on the fundamental principal of whether we should negotiate a balanced, verifiable nuclear arms freeze, I have no hesitation.

We need such a freeze. We need it now. So I personally will vote for a nuclear arms freeze ballot initiative in November.

Normally, I do not get involved in State referendums. But because of the overwhelming importance of this particular issue, I feel compelled to say "yes", absolutely "yes," and let me say I'm confident that the people of California will provide the signatures that will put this matter on the ballot in November.

I am very concerned about statements that have been made by various people in high places about the nature of nuclear war, statements that do not seem to apply or suggest any real understanding of what nuclear war would really mean in terms of the holocaust that it would be.

Before our committee, the Foreign Relations Committee, where Larry and I serve, there came last year Eugene Rostow nominated to be the director of the Arms Control and Disarmament Agency, the body with the responsibility of developing and pursuing American approaches to arms control and disarmament.

He was asked if our country could survive a nuclear war.

He responded, and this is more or less an exact quote:

> Well, Hiroshima was bombed with nuclear weapons and was back in business in about 4 years.

This is an incomprehensible statement. The weapons used at Hiroshima were primitive, nothing compared to what would be used now if nuclear war came.

A member of the committee asked if there was an all-out nuclear exchange with the Soviet Union, how many people would die, and Eugene Rostow responded, and this is nearly a direct quote:

> Well, perhaps 20 million would die on one side and 100 million would perish on the other side, but life would go on.

More recently, there has been an equally startling statement emanating from a high place in the administration in Washington, and as a consequence of that, I want to announce that the Senate Foreign Relations Committee, the subcommittee that Larry and I are involved in, will investigate the basis of a claim by a high Reagan administration Defense Department official that the United States could fully recover from a nuclear war in a relatively short time with adequate civil defense.

I thank Senator Pressler for his recognition of the need to look into the basis for that statement.

Senator Pressler has agreed this subcommittee will call one T. K. Jones to explain a statement he made to the Los Angeles Times that it would take only 2 or 4 years for the United States to recuperate from total nuclear war with the Soviet Union.

Mr. Jones is Deputy Under Secretary of Defense for Strategic and Nuclear Forces.

He told the Times in an interview published last Saturday that all that would be required are such protective measures as evacuation of urban population centers, if we had advanced warning of a week, civilian survival training and the construction of simple fallout shelters.

I want to know how Mr. Jones can make such a statement. We heard testimony in San Francisco yesterday, from eminent nuclear scientists and medical experts, including medical experts representing the viewpoint of the American Medical Association and concerned physicians

that, "Civil Defense is a cruel delusion if it leads anyone to believe that nuclear war is survivable."

Testimony that a nuclear war would be, "The ultimate medical problem, a terminal event for our civilization," and that the American Medical Association believes that, "No adequate medical response is possible to nuclear war."

Dr. Sidney Drell, Deputy Director of Standard Linear Accelerator testified:

> An all-out nuclear conflict involving a large fraction of approximately 50,000 nuclear bombs currently deployed by the United States and the Soviet Union would shatter the entire fabric of our society and the civilization built up over the centuries by the human spirit and human genius.

Dr. Drell said a single 1-megaton bomb would cause up to 2 million casualties. One bomb would destroy all buildings within 30 square miles, blind anyone looking at the fireball within 30 to 40 miles, create heat winds covering 100 square miles, cause severe secondary burns to anyone within 11 miles and make 1,000 square miles of the Earth's surface uninhabitable for long periods of time.

I want to know what is going on in the administration. Are some people within it trying to get us to believe that nuclear war could be made acceptable through civil defense?

Not too long ago nuclear war was termed unthinkable in the sense that the human mind could not fully grasp the death and destruction that such a war would cause.

It was also unthinkable in that no rational mind could conceive of a nuclear war being deliberately brought about.

For some time now and, with increasing frequency since President Reagan took office, nuclear war, the unthinkable, seems to have become thinkable with some White House military and civil advisers.

What happens, I ask our country, what happens if nuclear war becomes thinkable. If it's thinkable, might it not be tolerable, and if tolerable, acceptable?

If nuclear war is acceptable, might it not be winnable and if winnable, what? Desirable?

Is it possible that the administration, or at least some people within the administration, are trying to prepare the American public for not just the acceptance of nuclear war but perhaps its desirability?

Is it possible that in their mindlessness and their excessive fear of the Soviet Union they believe anyone can win a nuclear war, win it just by having an evacuation plan and some bomb shelters and something called civil defense along with a great arsenal of nuclear weapons?

If so, then the initials CD for civil defense may one day not stand for civil defense but for continental destruction or for civilization's demise.

Thank you very much.

[Senator Hayakawa's prepared statement follows:]

PREPARED STATEMENT OF HON. S. I. HAYAKAWA, A U.S. SENATOR FROM CALIFORNIA

I am sorry I could not attend this hearing due to previous commitments. However, I do want to applaud Senator Pressler for holding hearings on this most pressing international issue—arms control.

Senator Pressler has often said that Ronald Reagan is the President who can bring about an effective arms control agreement. I fully concur and believe his speech last November shows that he is indeed serious about reducing the threat of nuclear war which hangs over all mankind.

We have all heard about the anti-nuclear demonstrations which have been staged in many parts of Europe as well as the United States. I understand the concerns of these people for the prospect of a nuclear war is intolerable.

However, in order to achieve a bilateral nuclear arms freeze, we must take the facts as they are and not as we wish them to be. I believe President Carter wanted to demonstrate our deep commitment to arms control to the Soviets. He cancelled or delayed the production of several strategic weapon systems during his first few years in office. And what happened—the Soviets continued with their adventurism culminating with the invasion of Afghanistan. After that event President Carter asked for an increase in defense spending which included plans for an MX missile system as well as other strategic systems. I believe he was sincere in trying a new approach with the Soviets but the Russians do not have a history of conceeding or giving away anything even upon agreement. Recent indications of the use of chemical warfare by the Soviets in Laos, Cambodia, and perhaps Afghanistan are further evidence that the Soviets are not guided by humanitarian concerns. Unfortunately unilateral disarmament leads to tyranny by our enemies. Therefore we must be prepared to face the very serious and *real* questions which are posed by the threat of nuclear war. If we do not, we will increase the level of insecurity and thereby increase the possibility of a nuclear war.

So we must press foreward on negotiations with the Soviets on both nuclear weapons in Europe and on all strategic weapons. I am pleased with the new acronym "START." It is important that we do work for arms reductions, not just arms limitations. And the President's proposal about medium range nuclear weapons in Europe has offered the Soviet Union the chance to reduce spending on nuclear weapons. I sincerely hope that they do not totally reject this offer.

In the meantime we must continue with the modernization of our strategic nuclear forces—not to build up our armaments but to promote meaningful negotiations. It is strange logic I know—building weapon systems to reduce weapon systems—but history has shown that this may be the only logic that works.

The burden now lies with the Soviet's. There is not one American who likes spending our resources on sophisticated weaponry and we would gladly put this money elsewhere. But we must be prepared to face the Soviets eye to eye so that we may truly reduce the threat to world peace.

Senator PRESSLER. I will call on our first witness. I might say that in this experiment of holding field hearings—and, of course, I can see your warm expression for your Senator whom you love very much—in these hearings, you will disagree with some things that witnesses will say, but to expedite the process and so we can hold more hearings like this, cooperation of the audience, now that we're into the witnesses, would be appreciated.

If you disagree with the question or something of that sort, in this kind of hearing the best way to express it is to write out as good a question as you can and submit it for the record as opposed to slowing us down here, because we do have several good witnesses that we should listen to, and some of them will say things that you will disagree with.

That's what the hearing is for, and I would like to continue holding field hearings in this area. So your cooperation will be much appreciated.

The first witnesses, and I want Senator Cranston to introduce these people, because he knows them personally. Their biographies are very outstanding.

In our course of 3 days of hearings we're going to hear a lot of different points of view and we only have time for five witnesses this morning.

What we do in Washington is hear as many points of view as possible in order to keep Congress informed of what is going on.

The first witness is Mr. Harold Willens, and I shall call on Senator Cranston to introduce him.

Senator CRANSTON. Thank you very much, Larry.

Before introducing Harold Willens, I would like to note that many groups wanted to present testimony. We had to limit those that can testify to a reasonable number because of our time constraints.

I do want to ask unanimous consent that the statement of others who want to testify and have viewpoints they want to express be included in the record.

Senator PRESSLER. That is so ordered.

Senator CRANSTON. I thank you very much, Larry.

Harold Willens is chairman of the California Bilateral Nuclear Freeze Ballot initiative. He's a prominent California industrialist. He played a key part in the struggle in California and across the Nation to get us out of Vietnam.

He's now devoting himself to a still more important cause, the prevention of nuclear war. He's a friend of mine and a friend of every living human being. I have profound admiration for him.

Harold Willens.

STATEMENT OF HAROLD WILLENS, CALIFORNIA BILATERAL NUCLEAR WEAPONS FREEZE INITIATIVE, LOS ANGELES, CALIF.

Mr. WILLENS. Thank you.

Senator PRESSLER. May I say, also, to each witness that we will put your entire statement in the record. Please summarize as much as you can.

We would like 10 or 15 minutes of oral testimony.

So if you can summarize somewhat.

Mr. WILLENS. I appreciate that.

When I was invited to testify, I was asked to keep my remarks to 15 minutes and I will.

Before making my statement, I want to make one very brief statement which is topical and follows on what Senator Cranston said, because this has been much in the news, especially the Los Angeles Times in recent days.

On behalf of the thousands of Californians actively involved in this campaign, I hearby call for the immediate dismissal of all Federal officials who are attempting to deceive the American people into believing that a civil defense system can "save 80 percent of the American population in an all-out nuclear war with the Soviet Union."

That is a direct quote. Highly qualified scientific and medical experts, whose salaries and/or fees are not involved, predict that today's thermonuclear devices will convert a so-called shelter into a crematorium whose inmates would quickly die.

If the administration does not dismiss those officials from the Federal Emergency Management Agency, we demand that the Senate Foreign Relations Committee immediately initiate extensive public hearings where this life-and-death issue can be effectively debated and reported through the news media to the American people.

Now, Senator Cranston, Senator Pressler, ladies and gentlemen. The Senate, faced with decisions on national survival, has to wonder why people in California, top State in the weapons industry, are calling for a freeze on nuclear weapons. Who are we, you may ask. What's happening here. You are giving us a chance to explain and I thank you.

What is happening, here and all over the country, is that the American people are starting to see things in a new way.

There are signs of a new thought pattern, a change as basic as the switch from seeing the Earth as flat to seeing the Earth as a globe.

Scientists would call that a paradigm shift. It is what Albert Einstein asked for and feared might never come.

"The unleashed power of the atom," he said, "has changed everything except our way of thinking and thus we drift toward unparalleled catastrophe."

A growing percentage of Americans are beginning to feel the increasing speed of that drift.

What is this new paradigm? Its foundation is security, as in the wording of our freeze initiative: "The safety and security of the United States must be paramount in the concerns of the American people."

Nothing new there, but the switch, the new paradigm, is the realization that in contrast to all prenuclear weapons, the more devices of thermonuclear destruction we have, the less secure we are.

The danger grows every time another country follows the United States and the Soviet Union into an ever-widening circle of nuclear-armed nations.

The new paradigm sees the same facts as the old, among them the fact that the Soviets are catching up and may even now equal the United States in destructive capability.

But it sees this new constellation of facts as demanding the shift to a realization that neither nation can gain safety and security by threatening the safety and security of the other.

Like global Siamese twins, we either live together or die together. And now, when both nations are at the same level of destructive capability, we and the Soviets have an opportunity, an opportunity we may never have again, to back away from our collision course by means of a bilateral nuclear arms freeze.

A glimpse of this paradigm shift can be perceived in the nationwide Gallup poll last year. It shows 72 percent of the Americans as saying, "We want an agreement between the United States and the U.S.S.R. not to build any more nuclear weapons."

That is hardly a mandate, of course, only a new consciousness, like a child struggling to be born.

We of the "freeze" are like midwives trying to help it, feed it, and toughen it for the world of politics. We're doing that through a campaign designed to produce ballot box proof of a citizen mandate which is something the Congress has always responded to. That kind of citizen mandate is particularly needed now.

In the last few years the Congress has failed to challenge—it has even failed to seriously debate—the so-called countervailing nuclear strategy concept which has crept into the picture and which represents a fundamental and fearful change in policy.

It is a change that would be called from MAD to worse. MAD [Mutually Assured Destruction], can be achieved with several hundred U.S. and U.S.S.R. thermonuclear devices. As small a number as that can effectively destroy both nations.

Since there are now about 50,000 in our combined arsenals, those who want still more are forced to invent fantasy scenarios and smokescreen slogans to conceal what commonsense would otherwise reveal.

The counterproductive consequences to our national security and our economic security that flow from putting our money where our myths are. As I said, the Congress has failed the American people by failing to debate this distortion of the term "deterrence."

That's why the California campaign we are launching assumes particular significance.

Who are we? We are industrialists, scientists, doctors, ministers even defense workers, citizens from all walks of life.

Incidentally, as of last night, our turned-in signatures were 222,000, and it generally runs 10 percent above the number that's turned in because there are all-round mistakes.

I am a business executive who, as a U.S. Marine intelligence officer, happened to see both Hiroshima and Nagasaki not many weeks after those two cities were leveled at the dawn of the atomic age. What I did not see, until much later, was that those two American atomic devices changed forever the nature of war.

Other business executives among us are Victor Palmieri, Brook Waller, Leopold Wyler, and many more. There are dozens of top scientists including Nobel laureates. Dr. Salk is one of our distinguished medical people and religious leaders include Cardinal Timothy Manning, Archbishop John Quinn, Fuller Seminary President David Allan Hubbard, Rabbi Joseph Asher, and many more.

Mainly, and by the thousands, we are ordinary citizens listening to people like Marvin Goldberger, who I see is here to testify before you.

A powerful argument for the new paradigm lies in the fact that Dr. Jerome Wiesner, president of MIT, and Dr. Goldberger, president of Caltech, that these two leaders of our Nation's two greatest centers of scientific and technological learning both favor cessation and reduction of nuclear weaponry.

For years we have been told that we, the people, are unable to pass judgment on this issue because we cannot understand the technical factors involved.

But here we have the heads of the two top technical institutions saying that more nuclear weapons bring us less national security. It's hard to imagine a clearer warning, that it's high time for a review, a reassessment, of policies based on the vaining effort to gain nuclear superiority. These two scientific leaders, along with many others, are telling us to reject the tunnel vision of the old paradigm.

They and we are urging President Reagan to propose a bilateral nuclear weapons freeze.

By that, we mean a United States/Soviet agreement to immediately halt the testing, production and further development of all nuclear weapons, missiles and delivery systems in a way that can be verified by both sides.

That's right out of the initiative. What chance is there the President will do this? Fortunately, he has already signaled a possible shift.

On November 18 he announced a new alternative, mentioned by Senator Pressler, START [Strategic Arms Reduction Talks]. He said his aim for START is, "Definite verifiable reduction of strategic nuclear weapons."

We think that idea could save the Nation. No future event should be allowed to downgrade or postpone it. No linkage should be allowed to block it. START is nonpartisan, basic. It could become the prime goal of a once-more-united American people, and if we can get the President to initiate START with the freeze, we think it's an achievable goal.

Without the freeze—and the history of past negotiations shows this—the reduction of tensions that the freeze could bring, the President's definite verifiable reduction will prove impossible.

START and the freeze hand-in-hand could rewrite arms control history.

They could halt the nuclear arms race and win for Ronald Reagan a personal place of honor in our Presidential hall of history.

No longer will there be the extreme tension, the strategic stalling, the cutthroat bargaining for advantage. No longer would negotiators have to fear the momentum of their opponent's science and technology. The freeze would have taken care of it.

No longer would there be a relentless race in the background to wipe out all gains. The tone, attitude, and goals of START negotiators would be different under the freeze. Tension reduction would make possible arms reduction and survival.

There are a couple questions which have been raised. The first one is, What would your freeze do to our intermediate missile negotiations in Europe? Don't we need to threaten the Soviets with deploying our Pershing II's and cruise missiles? How else will we get them to remove their SS–20's?

Aren't you in favor of the Presidents' goal of saving Europe from nuclear war? The answer is yes, we are. We support him heartily in that and we support his further goal, saving the United States from nuclear war.

But the best means for reaching these goals, we feel, in Europe as well as here, is the President's START program plus the freeze. The problem is global and requires a global solution.

First we must reduce tensions with the freeze and actually start cutting back on strategic weapons.

Then the problem of negotiating the safety and security of Europe will have been made much simpler.

The other question is, What about the Soviets? Will they go for a freeze and could we trust them not to cheat? Let's take the cheating first.

The first is verification, not trust. Verification of SALT compliance by means of photo reconnaissance, satellites, seismographs, and radar was the subject of the Senate Armed Services Committee hearings in 1979.

Gen. David Jones, Chairman of the Joint Chiefs, was asked, "Do you believe we can adequately verify the SALT agreements?"

"Yes, I do," he said.

That "yes" applies even more to the verification of a total halt of nuclear weapons activity in a freeze.

Totality wipes out ambiguity and it makes verification easier.

Regarding Soviet acceptance, they fear annihilation as much as we do. Every year since 1976 they have made proposals like the freeze at the U.N.

Perhaps this was only propaganda, but why not find out for sure by proposing a freeze of our own.

My final statement. The American people, ourselves included, want adequate and sufficient national security. We are entitled to that, but where is the sense in spending money that does nothing at all to improve our national security?

Civil defense, as we heard before, is a wishful fantasy.

The kind of information which Senator Cranston made in his remarks is the kind of information our campaign intends to communicate to the people of California and the people of our country, thereby shaping the realization that in addition to threatening the ultimate holocaust, a nuclear arms race also does severe damage to our economic viability. The paradigm shift to which I have referred is really nothing more than the application of commonsense to the one potentially terminal problem of our time.

Two hundred years ago Thomas Paine published a familiar pamphlet called "Common Sense," because, in the words of George Washington, "It worked a powerful change in the minds of many men."

Commonsense became a crucial catalyst in the movement that led to the birth of our Nation. The death of our Nation can be prevented now if that same kind of citizen commonsense can be brought to bear upon our political process.

The commonsense that citizen Tom Paine promulgated in 1776 is the same commonsense, the paradigm shift, that we hope to promulgate in 1982 through a national citizen movement that starts with the California Bilateral Nuclear Weapons Freeze Initiative.

Thank you for your time.

[Mr. Willens' prepared statement follows:]

PREPARED STATEMENT OF HAROLD WILLENS

Senator Cranston, Senator Pressler, ladies and gentlemen: The Senate, faced with decisions on national survival, has to wonder why people in California—top State in the weapons industry—are calling for a freeze on nuclear weapons. Who are we, you may ask. What's happening here? You are giving me a chance to explain and I thank you.

What is happening, here and all over the country, is that the American people are starting to see things in a new way. There are signs of a new thought pattern—a change as basic as the switch from seeing the earth-as-flat to seeing the earth-as-a-globe. Scientists would call it a paradigm shift. It is what Albert Einstein asked for and feared might never come. "The unleashed power of the atom", he said, "has changed everything except our way of thinking—and thus we drift toward unparalleled catastrophe". A growing percentage of Americans now feel the increasing speed of that drift.

What is this new paradigm? Its foundation is security, as in the wording of our Freeze initiative: "The safety and security of the United States must be paramount in the concerns of the American people". Nothing new there.

But the switch—the new paradigm—is the realization that in contrast to all prenuclear weapons, the more devices of thermonuclear destruction we have, the less secure we are. And the danger grows every time another country follows the United States and the Soviet Union into an ever-widening circle of nuclear-armed nations.

The new paradigm sees the same facts as the old, among them the fact that the Soviets are catching up and may even now equal the United States in destruc-

tive capability. But it sees this new constellation of facts as demanding the shift to a realization that neither nation can gain safety and security by threatening the safety and security of the other. Like global siamese twins, we either live together or die together. And now, when both nations are at the same level of destructive capability, we and the Soviets have an opportunity—an opportunity we may never have again—to back away from our collision course by means of a bilateral nuclear arms Freeze.

A glimpse of this paradigm shift can be perceived in the nation-wide Gallup poll of last June. It showed 72 percent of Americans as saying, "We want an agreement between the United States and the U.S.S.R. not to build any more nuclear weapons". That is hardly a mandate, only a new consciousness, like a child struggling to be born. We of the Freeze are like midwives trying to help it, feed it and toughen it for the world of politics. We are doing that through a campaign designed to produce ballot box proof of a citizen mandate; which is something Congress has always responded to.

That kind of citizen—mandate is urgently needed now. In the last few years the Congress has failed to challenge—or even seriously debate—the so-called "countervailing nuclear strategy" concept which has crept into the picture and which represents a fundamental and fearful change in policy.

It is a change from MAD to WORSE. MAD (mutually assured destruction) can be achieved with several hundred United States and U.S.S.R. thermonuclear devices. As small a number as that can effectively destroy both nations. Since there are now about 50,000 in our combined arsenals, those who want still more are forced to invent fantasy scenarios and smokescreen slogans to conceal what commonsense would otherwise reveal; the counterproductive consequences to our national security and our economic security, that flow from putting our money where our myths are. As I said, the Congress has failed the American people by failing to debate this distortion of the term "deterrance". That is why the California campaign we are launching assumes particular significance.

Who are we? We are industrialists, scientists, doctors, ministers, even defense workers—citizens from all walks of life. I am a business executive who, as a U.S. Marine intelligence officer happened to see both Hiroshima and Nagasaki not many weeks after those two cities were leveled at the dawn of the atomic age. What I did not see, until much later, was that those two American atomic devices changed forever the nature of war. Other business executives are Victor Palmieri, Leopold Wyler and many more. We have dozens of top scientists, including Herbert York (former head of Livermore Nuclear Weapons Laboratory) and five Nobel Laureatres. Dr. Jonas Salk is one among our group of distinguished medical people. Religious leaders who have endorsed the freeze include Cardinal Timothy Manning, Archbishop John R. Quinn, Fuller Seminary President David Allan Hubbard, Rabbi Joseph Asher and the Rev. Thomas Kilgore.

But mainly, and by the thousands, we are ordinary citizens listening to people like Marvin Goldberger, who I see is here to testify before you. A powerful argument for the new paradigm lies in the fact that Jerome Wiesner, for many years president of MIT and Dr. Goldberger, president of Caltech—that these two leaders of our nation's two greatest centers of scientific and technological learning, both favor the Freeze idea.

For years we have been told that we the people are unable to pass judgment on this issue because we cannot understand the technical factors involved. But here we have the heads of the two top technical institutions saying that more nuclear weapons bring us less national security. It is hard to imagine a clearer warning that it is time for a review, a reassessment of policies based on the vain effort to gain nuclear superiority. These two scientific leaders—along with many others—are telling us to reject the tunnel vision of the old paradigm.

They—and we—are urging President Reagan to propose a bilateral nuclear weapons Freeze. By that we mean a United States/Soviet agreement "to immediately halt the testing, production and further development of all nuclear weapons, missiles and delivery systems in a way that can be verified on both sides".

What chance is there he will do this? Fortunately the President has already signaled a possible shift. On November 18 he announced a new alternative: START—Strategic Arms Reduction Talks.

He said his aim for START is "definite verifiable reduction of strategic nuclear weapons". We think that idea could save the Nation. No future event should be allowed to downgrade or postpone it; no "linkage" should be allowed

to block it. START is nonpartisan, basic; it could become the prime goal of a once-more-united American people. And if we can get the President to initiate START with the Freeze, we think it is an achievable goal. But without the Freeze—and the history of past negotiations shows this—without the reduction of tensions that the Freeze could bring, the President's "definite verifiable reduction" will prove impossible.

START and the Freeze, hand in hand, could rewrite arms control history. They could halt the nuclear arms race and win for Ronald Reagan a permanent place of honor in our Presidential hall of history. For no longer would there be the extreme tension, the strategic stalling, the cut throat bargaining-for-advantage. No longer would negotiators have to fear the momentum of their opponent's science and technology. The Freeze would have taken care of it. No longer would there be a relentless race in the background to wipe out all gains. The tone, the attitude, the very goals of START negotiators would be different under the Freeze. Tension reduction would make possible arms reduction—and survival.

There are questions, to be sure. Question number one is: What would your Freeze do to our intermediate-range-missile negotiations in Europe? Don't we need to threaten the Soviets with deploying our Pershing II's and cruise missiles there? How else will we get them to remove their SS–20's? Aren't you in favor of the President's goal of saving Europe from nuclear war?

The answer is yes, we are. We support him heartily in that. And we support his further goal: saving the United States from nuclear war. But the best means for reaching these goals, we feel—in Europe as well as here—is the President's START program, plus the Freeze. The problem is global and requires a global solution. First we must reduce tensions with the Freeze and actually start cutting back on strategic weapons. Then the problem of negotiating the safety and security of Europe will have been made much simpler.

The second question is what about the Soviets. Would they go for a Freeze? And could we trust them not to cheat? Take the cheating first. The word is verification, not trust. Verification of SALT compliance by means of photo-reconnaissance satellites, seismographs and radar was the subject of the Senate Armed Services Committee hearings in July 1979. General David Jones, Chairman of the Joint Chiefs of Staff, was asked, "Do you believe we can adequately verify the SALT agreements?" "Yes, I do," he said.

That yes applies even more to the verification of the total halt of nuclear weapons activity in a freeze. Totality wipes out ambiguity and makes verification easier.

Regarding Soviet acceptance of a freeze: They fear annihilation as much as we do. Every year since 1976 they have made freeze like proposals at the U.N. Perhaps this was only propaganda, but why not find out for sure by proposing a freeze of our own?

And now to the economic impact of a freeze. Let me start with a quiz:

Question. How many video-tape machines were bought in the last 3 years?

Answer. About 2 million.

Question. How many of those 2 million were made in the United States?

Answer. None.

Question. How many were made in Japan?

Answer. All 2 million.

Question. Does this result from Japan's being free from the technical brain drain and dollar drain of the nuclear weapons race?

I can't prove that, but Japan's competitive edge in video-tape, TV's and cars makes me wonder. Certainly a freeze on our nuclear weapons production might help. The enormous sums of money saved would cut the budget, cut interest rates, cut inflation and cut the national debt—all at the same time.

That, and putting the thousands of nuclear weapons scientists and engineers back into private industry, would surely help us become competitive in the world markets once again.

The American people—ourselves included—want adequate and sufficient national security. We are entitled to that. But where is the sense in spending money that does nothing at all to improve our safety? Civil defense, for example, is a wishful fantasy. The most highly qualified scientific and medical experts—those whose fees and salaries are not involved—prove beyond doubt that the destructive power of today's nucelar annihilation devices will transform any so-called shelter into a crematorium whose occupants would quickly perish. The countless

billions diverted for such "shelters" would damage our economy and add nothing to our security.

This is the kind of information our campaign intends to communicate to the people of California and the people of our country, thereby shaping the realization that in addition to threatening the ultimate holocaust, a nuclear arms race also does severe damage to our economic viability.

The paradigm shift to which I have referred is nothing more than the application of commonsense to the one potentially terminal problem of our time. Two hundred years ago Thomas Paine published a pamphlet called "Common Sense". Because, in the words of George Washington, it "worked a powerful change in the minds of many men". "Common Sense" became a crucial catalyst in the movement that led to the birth of our Nation. The death of our Nation can be prevented now if that same kind of citizen commonsense can be brought to bear upon our political process.

The commonsense that citizen Tom Paine promulgated in 1776 is the same commonsense (the paradigm shift) that we hope to promulgate in 1982 through a national citizen movement that starts with the California Bilateral Nuclear Weapons Freeze Initiative.

Senator PRESSLER. I have a couple of questions.

I very much appreciate your fine testimony.

Our present situation is a result of 35 years, as our next witness is going to say—I read some of his remarks last night—35 years of activity, both on the part of ourselves and the Russians, and that's been through different administrations, different parties, different leaders in Russia and so forth.

I notice you were born in Russia and that probably you follow matters very closely. I guess the stumbling block to arms control has been this business you addressed of the necessity of verification.

Because of the increasingly complex and mobile weapons systems, national technical means provided by satellites may not be adequate. Actual inspections may be required.

Do you believe that either the United States or U.S.S.R. would permit these, what might be called, intrusive inspections?

Mr. WILLENS. First of all, it's interesting you mention I was born in Russia.

My parents and I escaped illegally at great danger to ourselves.

I experienced firsthand, even though I was only a little over 10 years old, antisemitism and many other things which should make a Russophile out of me—a Russophobe, if anyone could possibly be.

I have personal reasons to detest that kind of system.

But I have also come to understand, as I said before, that we either live together or die together.

Like great religious hostilities that led to great religious wars several centuries ago and wiping out each other didn't work, coexistence replaced attempts at coextermination.

Your question—first of all, I have had, I believe on good authority, long discussions with people who have been involved in these discussions, Dr. Herbert York, many others, that at least 95 percent of dependable verifiability can be achieved.

I'm even told by people who know that the Soviets are moving gradually, and if we would just give them some encouragement, might even move further to onsite inspection, but that the percentage of risk, even if we didn't have that, is so slight that the gains that they would make by cheating would be so minimal and meaningless that they would be fools to do it and would make a laughing stock out of themselves in the eyes of the world.

So when there is very little to gain and a great deal to lose and when we have far less risk, we are at risk far less, by accepting 95 percent to begin with and then move onto the question of onsite so we can get 100 percent.

That's a lot better risk, in the eyes of a businessman like myself, than the 100 percent risk that I see if we continue playing thermonuclear leapfrog and eventually lead to a world filled with nuclear-armed countries and terrorists.

There I see 100 percent risk and that's a lot worse than taking a prudential, calculated risk for the amount of verification which is definitely achievable now.

Senator PRESSLER. I also very much appreciated the balance in your statement regarding START.

I have said, and there will be many that might disagree, that it may—and this policy has built up over a 35-year period—it may well be that President Reagan is in a unique position in the sense that the political group that he comes from normally would be opposed to an arms control agreement. He may well be in a position parallel to that of Richard Nixon who could go to China and bring about a dramatic change in our relations with that nation. This administration, I feel, may be in a unique position to move forward on arms control.

Mr. WILLENS. I agree with you totally. I respect you very deeply for that statement and agree with you totally.

In the first place, I have always felt that no single administration should be blamed for what's happened. All this has gone on since August 6, 1945, and every President since then has escalated the nuclear arms race and the Soviets have followed.

This is not a partisan issue. It's not even a political issue nor is it an ideological issue, and the blame should never be placed on one individual.

Like you, I feel that President Reagan is uniquely situated to be able to be the first President in the history of a horrendous nuclear arms race to stop it. I think he could do it with no risk at all.

As I said before, he could become a historic figure by doing so.

Senator PRESSLER. Thank you very much.

Senator CRANSTON. Harold, thank you for a very forceful, wise, and eloquent statement. I want to associate myself with those hopes, that the Reagan administration will take the lead here and if it could be done, that would be a tremendous accomplishment, not only for his administration, but for our country and the people of the world.

I would like to ask you about the origins of the nuclear freeze initiative.

Who was responsible for the final draft?

Mr. WILLENS. Like the idea itself, even the final draft had many parents. So no one individual is responsible for it.

Some of the polishing at the end was done by a wonderful wordsmith who is familiar to everyone here named Norman Cousins. There's a number of attorneys involved, of course, because of legality.

Like the idea, it's not my idea. It's not any single individual's idea. It's an idea I believe whose time has come and results from the growing concern of many people.

My first discussions, interestingly enough, of the idea was about 3½ years ago at the U.N. special session on disarmament. You remem-

ber, Alan, that I was part of the U.S. delegation to that first-ever U.N. special session.

It lasted for 6 weeks, and in frustration, some of us as citizen delegates were meeting with NGO [nongovernmental organizations] groups, and we met often and we decided that citizen action was the only way, that there must be a citizen contingency that's visible and auditable on this issue. Everything ought to be tried.

One of the individuals even stated initiatives should be tried.

That far back the idea was already gestating. Many people are involved—thousands literally—and dozens were involved in the drafting of the language itself.

Senator CRANSTON. Thank you very much.

I want to get one matter very clearly on the record.

Am I correct in stating that the initiative calls for the President to propose negotiation of a freeze, that it does not call for him to unilaterally freeze all U.S. nuclear weapons?

Mr. WILLENS. You are absolutely right. It calls for him to challenge the Soviets, as it were, for an immediate cessation on a bilateral basis which is verifiable.

Senator CRANSTON. Assuming the initiative passes, what would you see as the next step for groups like yours to take?

Mr. WILLENS. My understanding of politics and the history of our country is that both have been part of an incremental process, that nothing—I don't think that President Lincoln woke up one morning and said, "Hey, the Emancipation Proclamation sounds like a good idea."

I think the work of a dozen citizens who started in 1804 and multiplied their numbers gradually, that kind of incrementalism led to the birth of a citizen mandate as it were, and I think everything has happened that way, the change in child labor laws, the right for women to vote and many other women's rights which we're still fighting for, the end of the Vietnam war, which I think the citizens brought about, not anyone leading.

My feeling is long before next November, what we are starting here will have spread throughout the country and in fact, that has already begun to happen.

I believe that there's national pressure for this kind of plain commonsense logical action which says, "Look, we can wipe each other out 10 times over. This is ridiculous. Let's stop and let's begin to talk about reversing the process."

I think the citizen passion, not just wish for that, will have been felt around the country long before next November.

Of course, the process must continue. It will be nationalized in many ways, formally as well as informally and that way I would hope the American citizenry will have taken that step toward saving its nation and saving their own individual lives.

Senator CRANSTON. Thank you.

As I understand it, the initiative proposal would in no way affect spending on conventional, nonnuclear military expenses?

Mr. WILLENS. No, it has nothing to do with that. I sometimes define it as the narrowest possible issue, that is, nuclear weapons as such.

We do ourselves an enormous disservice by calling them weapons and bombs because subliminally, psychologically, inwardly, it's a horrify-

ing thought, the idea of nuclear war. We kid ourselves by saying or thinking. "Well, there have always been weapons and even bombs have been around a couple hundred years."

We need new semantics. We need to awaken the American people to the fact that this is a whole new era and we cannot survive nuclear war. So it's a very narrow issue, nuclear weapons.

But it's the deepest. It cuts the deepest of any issue.

I called it in my remarks the one potentially terminal problem we face. I'm sure you will hear from Dr. Goldberger and others, scientific evidence to reinforce and support that point.

We think our country needs to be able to defend itself in many areas of conventional weapons and in the quality of our armed forces and so on, we need improvement. But at the same time we need to stop this last tango in which the Soviets and we seem to be in a locked step toward death and fail to recognize that as we're doing it, we can't preach one thing and practice the opposite.

This is one thing I learned at that U.N. special session when I would talk to dozens of representatives from other countries. They would say, "How long do you think this stupid double standard can last? You tell us not to get into it and you keep building up your inventories."

So we have to come to the realization that it's our own extinction that we're leading the way to, and as two countries that have many, many problems to deal with, if we could give ourselves the time to deal with those problems instead of leading the way, as I said, to a world filled with nuclear-armed countries and terrorists, then there would be hope for humanity.

Senator CRANSTON. Thank you very much for your testimony and your leadership.

Senator PRESSLER. Next we will call Dr. Marvin Goldberger, president of Caltech.

Senator CRANSTON. I would like to welcome our next witness, who is president of Caltech in Pasadena. He's been very helpful to many Senators and others who are interested in progress on arms control issues.

He's chairman of the National Security/Arms Control Study Group of the National Academy of Science, an outstanding leader focusing his remarkable talents on this No. 1 problem. Welcome.

STATEMENT OF DR. MARVIN L. GOLDBERGER, PRESIDENT, CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, CALIF.

Dr. GOLDBERGER. Thank you.

It's a privilege to have the opportunity to testify before this committee on issues related to strategic nuclear war and arms control.

I want to emphasize that I'm speaking as an individual and in no way representing the views of the students, faculty, staff, or trustees of the California Institute of Technology.

The United States and the Soviet Union have been engaged in a nuclear arms race for the past 35 years. The cost has been enormous, in money, loss of jobs, diversion of scientific and engineering talent.

This arms race has made the world a much more dangerous place to live. There is a growing realization in this country, in Western Europe

and in the Soviet Union that there would be no winners in a nuclear war.

In my testimony, I expose some of the forces which have led to what, in my opinion, are termed irrational behavior on the part of the United States and the Soviet Union and then going on to make some suggestions as to how we can get off the treadmill and begin to address the serious problems that confront a world with reduced resources and an overpopulated world.

In the interest of brevity, I will summarize my statement and then interject a few additional remarks.

With regard to the growing feeling in the United States in connection with concerns over nuclear war, on November 11 there were confrontations held on the campuses of 141 colleges and universities that spent all day addressing these issues.

The remarkable part of that confrontation was that it was started by the concerned student scientists calling up about 20 of their friends at universities across the country, and within a remarkably short period of time simply exploded to 141 institutions.

There was a conference on the medical consequences of nuclear war that was held near Washington last spring that was reported in very great detail on national Soviet television and radio.

So worldwide concern about this issue is a fact.

Harold Willens remarks that the nuclear age began on August 6, 1945, when the United States dropped a nuclear weapon with an explosive power of 13 kilotons, 13,000 tons of explosive power, equivalent to 13,000 tons of TNT, on the city of Hiroshima and it killed 100,000 people.

Very few people understood the extent to which nuclear weapons revolutionized war.

It's still unfortunately true today.

Quite by accident, I join Harold Willens in quoting Albert Einstein who said that nuclear weapons have changed everything about war except the way men think.

The United States pushed forward with the development of larger and larger so-called fission weapons, larger versions of those dropped at Nagasaki. There was, however, the prospect of making larger weapons, so-called fusion or thermonuclear weapons, commonly referred to as H-bombs, hydrogen bombs, which had unlimited explosive power.

Although there was no military requirement and against the advice of the scientific community—in response to the Soviet weapon in 1949, the Korean conflict and so on—the United States embarked on a crash program to develop thermonuclear weapons.

This was one of those watershed decisions that represented a nearly last chance to try to control nuclear weapons to even a limited extent.

In a famous report of the General Advisory Committee of the Atomic Energy Commission dated October 30, 1949, Nobel laureates Enrico Fermi and I. I. Rabi said:

> It is clear that the use of such a thermonuclear weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity, even if he happens to be a resident of an enemy country.

They go on later to say:

> The fact that no limits exist because of the destructiveness of these weapons makes the very existence and knowledge of its construction a danger to humanity as a whole. It's necessarily an evil thing considered in any light.

We'll never know what might have happened had we decided not to produce thermonuclear weapons, whether we might have persuaded the Soviet Union to do the same.

From about 1959, the United States proceeded with the development of a vast strategic nuclear force, as did the Soviet Union, in response to our activities and on their own initiative.

The result of that period of development, which I detail in my testimony, is the following current situation. The U.S. strategic nuclear forces consist of 1,053 land-based intercontinental ballistic missiles with about 2,100 warheads, 624 submarine launching missiles with about 5,000 warheads, 300-plus B–52 bombers with about 2,400 warheads and plans to equip about 125 of those B–52's with long-range cruise missiles—each one of those bombers carrying 20 to 30 long-range cruise missiles.

We have at present about 9,500 warheads. If we add in the forces of our allies, the number is closer to 10,000.

The Soviet Union, meanwhile, has 1,398 land-based intercontinental ballistic missiles with about 5,000 warheads, about 950 submarine launchers with about 1,500 warheads and a small force of about 150 bombers which all total 6,900 warheads.

I might remark that were the Soviets to decide not to abide by the unratified SALT II provisions, the current payload of their 308 SS–18 missiles could be increased from its present number of reentry vehicles of about 3,000 to as much as 6,000 or 9,000.

The destructiveness of these weapons systems boggles the imagination. A 1 megaton bomb detonated over the White House would destroy all concrete structures out to a distance of 3 miles.

Spontaneous ignition of clothing and household combustibles would occur within a 5-mile radius.

Up to 9 miles ordinary frame buildings would be seriously damaged and individuals would suffer second degree burns.

There would be a fire storm in about a 6-mile radius that would kill most of the people who would escape initial injury by virtue of the shelters.

Initial estimates are that there would be 600,000 fatalities instantly and about 800,000 injured, many with third-degree burns, blindness, and so on. There would be 2,500 surviving physicians to treat 800,000 people in medical facilities 60 percent destroyed. More blood plasma would be required to treat the casualties than currently exists in the entire United States.

Of course, in a massive attack there would be no help coming in from the outside.

There's an excellent study by the Office of Technology Assessment called "The Effects of the Nuclear War" that discusses both the short-term effects that I have described and longer-term effects associated with radioactive fallout.

The sheer numbers of these weapons are completely grotesque.

There are only 5,000 cities and towns in the United States with populations greater than 5,000. The Soviets could take them all out and still have about 2,000 warheads left over.

There are about 240 cities in the Soviet Union with populations over 100,000. Two or three of our Poseidon submarine forces, each carrying about 160 warheads, could destroy those cities, and I'll point out that we have 20 Poseidon submarines on patrol, as we talk now.

A convenient rule of thumb, and think about these things, is that one Poseidon submarine with what you might call optimum targeting could cause 30 million fatalities.

In spite of the size of our strategic forces, a growing concern over the issue of survivability of some of its components in the past several years has led the United States to the new weapon systems such as the MX missile and the B–1 bomber.

We have configured our strategic nuclear forces in such a way that they would survive and be invulnerable to a first strike.

Were the land-based missile component of our strategic forces indeed in jeopardy and in fact even destroyed, that represents only 30 percent of our strategic nuclear force.

An ability to destroy a land-based force could hardly be construed as a first-strike capability that was totally incapable of dealing with the submarine forces and a good fraction of our B–52 bombers.

By contrast, the Soviet Union has 70 percent of their strategic nuclear force in land-based intercontinental ballistic missiles and our current strategic current force, Minuteman III force, armed with the new Mark 124–A warheads, already threatens approximately half of that Soviet strategic nuclear force.

Nevertheless, concerns over survivability are a very dangerous spur to the arms race.

Let me turn to the question of how we can begin to reach toward a more stable and less dangerous world.

In order to make any progress there are certain things which must be kept clearly in mind. The most important is that, although we may wish it to be otherwise, the two superpowers have been living since the 1960's in a strategic relationship of mutual deterrence.

Deterrence means convincing an opponent he will suffer unacceptable damage should he attack you or, stated otherwise, he will be better off if he doesn't tangle with you. This came to be called mutual assured destruction, sometimes referred to by critics of this posture as MAD [Mutual Assured Destruction].

Like it or not, consider it to be amoral or what have you, MAD is what we have.

No doctrine or tactics of war-fighting or defense, civil or otherwise, can change this fact.

A second reality is that although the Russians are aggressive in pursuing their own political objectives and may not even be nice guys, they do feel threatened by us, by our allies and by China.

A third fact is that the Russians are neither 20 feet tall nor do they have a 10-foot yellow streak down their back. They can't perform technologic miracles that we can't keep up with, but at the same time they're not going to be frightened out of keeping up with us in an arms race.

Fourth, to suggest that we are in a militarily precarious position, vis-a-vis the Soviet Union or that we have been unilaterally disarming over the past few years allowing the Soviets to forge dangerously ahead of us is, in my opinion, totally incorrect.

I can't imagine our chiefs preferring the Soviet strategic configuration over ours. Our forces are diversified, flexible, and survivable.

The administration's actions to improve command control, communication, and intelligence are an important step in maintaining

these qualities and are of far greater significance than new weapons systems.

Fifth, it's meaningless to argue over the question of which side is ahead in the arms race. Our forces are superior in those areas we have concentrated on.

The Soviets are ahead in areas such as missile payload and warhead size that we correctly assumed were unimportant.

The number of weapons on both sides are so great that doubling those of one side compared to the other has no relevance either. As Robert McNamara pointed out, beyond a certain point all you can do with more warheads is to rearrange the rubble.

The final thing we kept in mind is that there is no hope that technology will provide some brilliant defense against Soviet missiles.

Laser battle stations sweeping the skies clean is Star Wars stuff.

Indeed, by the year 2000 we could put up large lasers on a satellite that would have some capability on missiles, but the cost of a real system would probably be in the trillions, terribly vulnerable, and easily countermeasured. This opinion is shared by former Secretary of Defense Harold Brown and by national security expert Richard L. Garwin, among others.

We should continue research in this area, of course, to make sure there are no surprises lurking, but at the present time it would be unwise to count on directed energy weapons, such as laser weapons, to provide a realistic missile defense.

The first important step to be taken in the direction of arms control and eventually arms reduction would be the ratification by the United States of the SALT II Treaty, either as it is or with some modest modifications that could be quickly negotiated with the Soviet Union.

There is a strong parallel between the SALT II Treaty and the initiative being proposed in California that Harold Willens talks about.

This treaty is clearly in the interest of the United States in that it limits potentially threatening Soviet moves, such as preventing an increase in the number of reentry vehicles on the SS–18 missile and preventing the encrypting of test data and essentially does not jeopardize any of our projected weapons systems under consideration by the United States.

More importantly, it places once and for all a cap on the worst-case scenario for a Soviet threat and would enhance the atmosphere talks about serious arms reduction with the administration termed START [Strategic Arms Reduction Talks].

The slow pace of the traditional arms control process as compared to what former Secretary of Defense McNamara once termed the mad momentum of nuclear weaponry has led many people, such as George Kennan, to suggest truly deep cuts in strategic forces. There are many compelling reasons for deep cuts. The number of weapons on both sides is clearly in excess of what is required for mutual, assured destruction.

These numbers in themselves generate the pressure for finding targets and for war fighting doctrines of flexible response or what W. K. H. Panofsky and S. M. Keeny, Jr., in the most recent issue of Foreign Affairs have called NUTS [Nuclear Utilization Target Selection].

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Thus ws have MAD versus NUTS.

From the standpoint of world politics, a proposal for major reductions would be very important. It's what arms control should be doing. A strong argument can be made that resource allocation, both economic and person powered, can continue the arms race stressing the wrong priorities even within the framework of our own Military Establishment, where the need for strengthening our conventional forces is clearly recognized.

Properly done, one can imagine moving into a regime of greater crisis stability for both the United States and U.S.S.R., if the most vulnerable and threatening systems were cut first.

There are many serious questions about how precisely one defines deep cuts.

They could be on the basis of numbers of weapons or what is called equivalent megatonnage, which is a measure of the total yield of the weapons, on the throw-weight of missiles, on the number of launchers such as in SALT I and SALT II or on various more complicated formulas like fixing the total number of launchers plus reentry vehicles or on limiting the total number of nuclear missiles and so on.

An additional step often discussed in the past is a cutoff of fissionable material for weapons. There is obviously a host of complicated technical questions raised about verification in any of these measures.

It's important to address the question of how one goes about making cuts. Do you proceed gradually by some appropriately defined fractional cuts each year? Do you make a dramatic step of a cut by 50 percent in all systems as a first step?

There are additional questions, questions of force modernization in the face of deep cuts. If you allow modernization, have you accomplished anything?

I don't have the answers to these questions, but I'm convinced there are verifiable and stable deep-cut scenarios that can be involved that will greatly enhance world security. I believe the climate in this country and the Soviet Union is more favorable than it has been for a long time for a truly bold step in arms reduction.

I hope the administration and the Congress will seize this opportunity. Thank you.

[Dr. Goldberger's prepared statement follows:]

PREPARED STATEMENT OF DR. MARVIN L. GOLDBERGER

It is a privilege to have an opportunity to testify before this committee on issues related to strategic nuclear weapons and arms control. I want to emphasize that I am speaking as an individual and in no way representing the views of students, faculty, staff or Trustees of the California Institute of Technology. I have been involved in national security affairs for about 30 years. For ten years I was a member and ultimately chairman of the Strategic Military Panel of the President's Scientific Advisory Committee, a consultant to the Arms Control and Disarmament Agency and to the Department of Defense and to several intelligence agencies. I am currently Chairman of the National Academy of Sciences Committee on International Security and Arms Control which is involved in unofficial bilateral discussions with a counterpart committee of the Soviet Academy of Sciences.

The United States and the Soviet Union have been engaged in a nuclear arms race for the past 35 years. The cost has been enormous: in money, loss of jobs and diversion of scientific and engineering talent. This arms race has made the world a much more dangerous place to live. There is a growing realization in this country, in Western Europe, and in the Soviet Union that there would be

no winners in a nuclear war. I want to examine some of the forces that have led to what can only be termed irrational behavior by both the United States and the Soviet Union, and then to make some suggestions as to how we can, without jeopardizing our national security, get off this treadmill and get started with the serious problems of living on an under-resourced, over-populated planet. I shall confine my remarks to the subject of strategic nuclear war but would be happy to comment on issues involving tactical nuclear weapons if anyone is interested.

The nuclear arms age began officially on 6 August 1945 when the U.S. dropped a nuclear weapon with an explosive power of about 13,000 tons of TNT (13 kilotons) on the city of Hiroshima killing about 100,000 people. It took the Soviet Union only 4 years to explode their first nuclear weapon—and the race was on. Very few people really understood then the extent to which nuclear weapons had revolutionized war. It is still, unfortunately, true even today. Albert Einstein did—he said, "Nuclear weapons have changed everything about war except the way men think."

The United States pushed forward with the development of larger and larger so-called fission bombs—larger versions of those dropped at Hiroshima and Nagasaki. There was, however, the prospect of making what was called fusion or thermonuclear weapons (H-bombs) of essentially unlimited explosive power. Although there was no military requirement, and against the advice of the scientific community, in response to the Soviet explosion of a fission bomb, the Korean conflict, etc., the U.S. embarked on a crash program to develop thermonuclear weapons.

This was one of those watershed decisions which represented that last chance to try to control nuclear weapons to even a limited extent. In a famous report of the General Advisory Committee of the Atomic Energy Commission dated 30 October 1949, Nobel Laureates Enrico Fermi and I. I. Rabi said, "It is clear that the use of such a (thermonuclear) weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity even if he happens to be a resident of an enemy country." They go on later to say, "The fact that no limits exist to the destructiveness of this weapon makes its very existence and the knowledge of its construction a danger to humanity as a whole. It is necessarily an evil thing considered in any light." We'll never know what might have happened had we decided not to produce thermonuclear weapons, whether we might have persuaded the Soviet Union to do the same.

While pursuing the development of this next generation of weapons, we were working on and in 1952 began producing the giant eight-engined B–52 bombers that would be required to deliver the then very large and cumbersome H-bombs. These bombers with mid-air refueling could travel from the United States to the Soviet Union and return—they were truly intercontinental strategic weapons, and they formed the first leg of what was to become our triad of strategic nuclear forces. The Soviet Union responded by building a relatively small number of strategic bombers and by beginning a massive deployment of surface-to-air missiles called SAM–1, a deployment which has continued unabated; and by now, they are up to SAM–10. This continuous upgrading of military systems, and in particular defensive systems, is characteristic Soviet behavior, and represents the enormous momentum and influence of their military establishment. Our current B–52 force carries, in addition to gravity bombs, short range attack missiles and is currently being configured to carry cruise missiles, armed with nuclear weapons, which have a range of 1,500 nautical miles, and a much greater capability for penetrating Soviet air defenses than the B–52's themselves.

The next significant development in strategic weaponry came in October 1957 when the Soviet Union launched the first earth-orbiting satellite—Sputnik. Although we had been aware for some years of a Soviet rocket program for medium-range ballistic missiles, this development shocked the United States with the realization that if the Soviets actually had a missile which could launch a Sputnik, they could also propel a nuclear warhead over intercontinental distances. The United States had had its own intercontinental ballistic missile (ICBM) program initiated in 1953–54 by a famous committee chaired by John von Neumann that designed the Atlas and Titan missiles and recommended the systems engineering responsibility to the Ramo-Wooldridge Corporation. We enormously accelerated our own missile program and the development of nose cones for warheads that could survive re-entry from space through the atmosphere. During the presidential campaign of 1960, the so-called missile gap played an important role. The loss of U–2 overflights of the Soviet Union and the then rela-

tively sparce coverage by reconnaissance satellites contributed to the uncertainty over the status of Soviet forces. The gap turned out to be non-existent, but we pushed forward to develop a massive land-based intercontinental missile force, primarily the solid-fueled Minuteman missile (MM) system, in addition to 54 massive liquid-fueled Titan missiles, all based in hardened silos capable of withstanding 2,000 pounds per square inch pressures and, of course, carrying nuclear warheads.

The way we arrived at the size of the MM force was interesting: The Air Force wanted 10,000 missiles, President Kennedy wanted 200, so Secretary McNamara proposed 1,000 as a compromise that both the Chiefs and the President could live with. Military requirements that realistically considered the enormous destructive power of this force in relation to potential targets played little role. One element that did figure was the desirability of having a force sufficiently large to be able to survive a first strike and still be able to retaliate with what was termed "assured destruction" of the Soviet Union defined in terms of some 400 megatons' equivalent of explosive power. The land-based ICBM force became the second leg of the eventual strategic triad. With the B–52 force (whose low altitude penetration tactics relied in part on the missiles blasting corridors through the air defenses in addition to their own electronic countermeasures), we now had the capability of destroying the Soviet Union twice over.

At the same time that the MM force was evolving, the third leg of the strategic triad was being developed: Submarine Launched Ballistic Missiles (SLBM), the Polaris submarine fleet. Nuclear powered submarines, capable of remaining on station for months at a time, were equipped with ballistic missiles, armed with nuclear warheads, which could be fired while the submarines remained submerged. The original Polaris fleet consisted of 41 submarines which have now been supplanted by 31 Poseidon submarines (with longer range missiles) and more recently the addition of (and gradual retirement of Poseidons) the larger and more powerful Trident submarines. We currently have about 624 SLBM launchers.

While all these things were going on in this country, the Soviet Union was mirroring our developments with their own deployments of land-based ICBM systems and SLBM's. They have gone through about eight different ICBM development programs, and currently their force of 1,398 land-based missiles consists of the so-called SS–11, SS–13, SS–17, SS–18 and SS–19 systems. Notable among these are the 308 SS–18's, their heaviest missile. They have in all 950 SLBM launchers.

There were two extremely significant things going on during the same time period of offensive weapon system development. As soon as ICBM's appeared, work began on the anti-ballistic missile defense system (ABM). The seemingly impossible problem of "hitting a bullet with a bullet" turned out to be relatively simple. Missiles could be tracked very precisely with radar, and nuclear tipped interceptors didn't have to get too close in order to destroy the attacking warhead. The problem of putting together a system capable of nationwide coverage which could defend itself and cope with a very large number of warheads and essentially indistinguishable decoys is very much more complicated. The cost of any such system would be exorbitant and is by and large impossible to build. The leverage is all with the offense; and the unbelievable destructiveness of nuclear weapons is such that even a system that were, say, 90 percent effective (a totally unreasonable expectation) would not save a country from total devastation. The reality of this situation was a strong factor in the negotiation of one of the most important of all arms limitation agreements, the SALT I Treaty, (SALT is the acronym for Strategic Arms Limitation Talks) in May 1972, by Nixon and Brezhnev. This treaty, which limited ABM deployment to 100 defensive launchers on each side tacitly acknowledged the impossibility of realistic area defense. Both the United States and the Soviet Union spent (and continue to spend) billions of dollars on ABM research, development and deployment. (The United States mothballed its defensive system emplaced at one of our Minuteman sites while the Soviet Union has never completed their 100 missile defensive deployment around Moscow.)

The other significant development going on in the 1960's in the United States and largely in the 1970's in the Soviet Union was the development of multiple independently targetable re-entry vehicles (MIRV's)—many warheads placed on a single launcher. Thus, one missile could be used to attack several widely spaced targets. The deployment of MIRV's was looked upon by the United States as the most effective way to penetrate an ABM system, to simply present it with an over-

whelmingly large number of targets all of which had to be attacked. The deployment of what ultimately turned out to be an air defense system (the SA–5) by the Soviets, but widely assumed to be potentially a very extenive ABM system, spurred interest in MIRV s. In 1968, just prior to the Soviet invasion of Czechoslovakia, we were prepared to propose a treaty banning MIRV's. The political climate of the times made it impossible to pursue this, and with the change of administration in 1968 the last opportunity to put a real cap on the offensive arms race was lost. Although it was not required militarily (being essentially unnecessary to penetrate a non-existent Soviet ABM), the pressure behind MIRV development from a variety of quarters (the military, the contractors, the Congress, the "technological imperative" of doing whatever was technically possible) proved irresistible. We began MIRV-ing both the ICBM and SLBM forces. To no one's surprise, the Soviet Union also developed MIRV's and in the 1970's has deployed them on its strategic forces.

The result then of what in my opinion can only be called mutual mindlessness on the part of the United States and U.S.S.R. is the following: the U.S. strategic force consists of 1,053 land-based ICBM's with about 2,100 warheads, 624 SLBM launchers with about 5,000 warheads, 300+ B–52's with about 2,400 warheads, and plans to equip about 125 B–52's each with 20 to 30 cruise missiles. At present we have 9,500 warheads; and if we include the forces of our NATO allies, closer to 10,000. The Soviet Union has 1,398 ICBM's with about 5,000 warheads, about 950 SLBM launchers with about 1,500 warheads, and a small force (~150) of bombers with a total of about 6,900 warheads. Were the Soviets to decide not to abide by the unratified SALT II Treaty provisions, the current payload of the SS–18 missiles could be increased from the present 8 or 10 MIRV configuration to 20, 30, or perhaps even 40 MIRV's.

The destructiveness of these weapon systems boggles the imagination. A one megaton bomb detonated over the White House would destroy all concrete structures out to a distance of three miles. Spontaneous ignition of clothing and household combustibles would occur in a 5-mile radius; and out to about 9 miles, ordinary frame buildings would be seriously damaged and individuals would suffer second degree burns. There would be a firestorm in about a 6-mile radius that would kill most of those who escaped initial injury in shelters. The estimates are that 600,000 people would die instantly and 800,000 would be injured, many with third degree burns, blindness, etc. There would be 2,500 physicians to treat the 800,000 in medical facilities 60 percent destroyed. More blood plasma would be required to treat the casualties than currently exists in the entire country. And, of course, in a massive attack there would be no help coming in from the outside. An excellent study by OTA called, "The Effects of Nuclear War," discusses both the short-term effects, like the above, and the longer time effects associated with radioactive fallout.

The sheer numbers of weapons is completely grotesque. There are only 5,000 cities and towns in the United States with populations over 5,000. The Soviets could take them all out and still have a few thousand warheads left over. There are about 240 cities in the Soviet Union with populations over 100,000. Two or three of our Poseidon submarines (each carrying about 160 warheads) could destroy them—and we have 20 Poseidons on patrol at all times. A convenient rule of thumb is that one Poseidon with "optimum" targeting could cause 30 million fatalities.

In spite of the size of our strategic forces, a growing concern over the issue of survivability of some of its components has in the past several years led the United States to consider new weapon systems such as the MX missile and the B–1 bomber. Since survivability is such a key issue, let me spend a few minutes talking about the steps we have taken in the past to try to insure the invulnerability of our strategic nuclear deterrent.

The development of an invulnerable strategic nuclear force has been a major objective of the United States for several decades. The fundamental concepts for such a force have involved one or more of the following: ready alert (i.e., warning; command, communication and control [C]; and responsiveness), hardness (i.e., basing modes which require high accuracy and large weapon yields for their destruction), invisibility (i.e., hiding missiles under the ocean surface on submarines), and deceptive basing (i.e., mobile systems or various "shell game" configurations).

The current U.S. strategic forces as we have discussed consist of the so-called Triad: (a) B–52 manned bombers armed with long-range cruise missiles (which means that the bombers needn't penetrate Soviet airspace) and short-range air-to-surface missiles as well as gravity bombs; (b) intercontinental ballistic mis-

siles (ICBM's); and (c) submarine-launched ballistic missiles (SLBM's). An important motivation for this force structure was that no conceivable attack could simultaneously destroy all three components.

The survivability of the overall forces involves various interlocking factors. An attack on the aircraft by submarine-launched missiles (involving missile flight times of the order of tens of minutes) would alert the ICBM force which would be vulnerable only to attack from ICBM's with a thirty-minute flight time. An initial attack on the ICBM's would give ample warning time to launch the aircraft. Even granting the destruction of these two legs of the Triad, the submarine force is generally felt to be invulnerable and is equipped with a sufficiently large number of warheads to totally destroy the Soviet Union.

Manned aircraft survivability is based largely on the concept of adequate warning time to get the forces airborne (in time of crisis a significant number could be continuously airborne) and thus relatively immune to attack. Though vulnerable to an attack by depressed trajectory SLBM's with sufficient explosive yield to barrage an area, the sheer numbers of warheads required is very large: about 10,000 one megaton weapons would be neederd to cover the whole United States.

The U.S. ICBM force relies on ready alertness and hardness of the silo basing for its survivability. Destruction of the silos requires an unusual combination of accuracy and yield in the attacking re-entry vehicle (RV). A survival option which is always available is to launch the force on warning of a massive attack.

The SLBM force relies for survivability on concealment. The size of the ocean areas available for patrol and the relative opaqueness of the ocean to all forms of electromagnetic or acoustic signals makes the location and destruction of a substantial number of submarines (at present) essentially impossible on a time-urgent basis. There is nothing on the horizon that seems at all likely to change this picture in the foreseeable future.

The current Soviet strategic forces consist more nearly of a dyad: ICBM's and SLBM's and a very small number of heavy bombers. The majority of warheads and throw-weight (approximately 75 percent) is concentrated in the ICBM force—in sharp contrast with the United States distribution, where roughly 70 percent of warheads and throw-weight are to be found in the combined bomber-SLBM forces. The Soviet ICBM force appears to rely on very hard silos to make them relatively invulnerable to the current generation of U.S. warheads, given their present yields and accuracies. There are also many references in Soviet writings about the launch-on-warning option. The Soviet SLBM force, of course, also relies on concealment for survival. There are certain geographical asymetries between the United States and Soviet Union that pose some special problems for the Soviet submarine deterrent.

The area of greatest concern would appear to be the survivability of current fixed ICBM silos. The combination of numbers of re-entry vehicles (RV's), and the accuracy and yields of the Soviet ICBM weapons has led to the perception in the U.S. that the Minuteman missile system is becoming increasingly vulnerable. The U.S. response to this perceived threat to one leg of the Triad is to consider the deployment of the so-called MX missile system in a presumably highly survivable basing mode. The combination of numbers, and the yields and accuracy of these MX warheads could, in principle, threaten the Soviet ICBM force. It is perhaps worth noting that the current MMIII force (with the new Mark 12A warheads) already threatens about 50 percent of the Soviet land-based missiles.

An attempt to destroy the Minuteman force would entail the launching of about 2,000 RV's timed in such a way as to impact nearly at the same time. These RV's would be flying trajectories over which they had never been tested. True confidence in the reliability of such a complex attack scenario is impossible to obtain—it can never be tested. By the same token, the reliability of C and silo hardness is virtually untestable—it is impossible to simulate the combined nuclear radiation, blast and electromagnetic environment of large, widespread nuclear explosions.

Perceptions and/or realities of the vulnerability of current ICBM forces will drive, in the absence of specific arms limitation agreements, a search for more survivable basing systems. The mobility-deceptive basing concept for the MX-missile system—200 missiles moved among 4,600 shelters—is an example of one which has at least for now been abandoned by the United States. Widely dispersed short-take-off-and-landing, long endurance aircraft capable of carrying air-launched ICBM's is another. Mobility, dispersal, and deception may increase survivability, but bring to varying degrees concern about verification in an arms control sense.

There are those who maintain that ultimately any essentially land-based system will become targetable. There are three immediate responses to such a threat: (a) Increased reliance on the near-total concealment of submarine forces; an unforeseen future breakthrough in ASW raises questions about the wisdom of this alternative; (b) Development of a command structure and doctrine to launch ICBM's on warning; this raises the spectre of accidental war by computer and unreasoned hair-trigger responses; and (c) Development and deployment of ABM systems to defend the land-based ICBM's this might well entail the abandonment of the SALT I Treaty, one of the cornerstones of the current concept of a stable deterrence (the other being the invulnerability of offensive forces).

The quest for a truly survivable strategic force is an ongoing one for both the United States and the U.S.S.R. Evidently the more invulnerable the force, the greater the crisis stability and the less the incentive for a first strike.

Let me turn now to the question of how we can reach a more stable and less dangerous world. In order to make any progress there are certain things which must be kept clearly in mind. The most important is that although we may wish it to be otherwise, the two super powers have been living since the 1960's in a strategic relationship of mutual deterrence. (Deterrence means convincing an opponent that he will suffer unacceptable damage should he attack you; or stated otherwise, that he will be better off if he doesn't tangle with you.) This came to be called "Mutual Assured Destruction," sometime referred to by critics of this posture as MAD. Like it or not, consider it to be immoral, or what have you, MAD is what we have. No doctrine or tactics of war fighting, or defense, civil or otherwise, can change this fact. A second reality is that although the Russians are aggressive in pursuing their own political objectives and may not even be "nice guys," they do feel threatened by us, our allies, and by China. A third fact is that the Russians are neither 20 feet tall or do they have a 10-foot yellow streak down their back. They can't perform technological miracles that we can't keep up with, but at the same time they are not going to be frightened out of keeping up with us in an arms race. Fourth, to suggest that we are in a militarily precarious position vis-a-vis the Soviet Union or that we have been unilaterally disarming over the past few years allowing the Soviets to forge dangerously ahead is, in my opinion, totally incorrect.

I can't imagine our Chiefs preferring the Soviet strategic configuration over ours. Our forces are diversified, flexible, and survivable. The Administration's actions to improve C^3I (command, control, communication and intelligence) are an important step in maintaining these qualities and are of greater significance than new weapon systems. Fifth, it is meaningless to argue over the question of which side is ahead in the arms race. Our forces are superior in those areas we have concentrated on, and the Soviets are "ahead" in areas such as missile payload and warhead size that we (correctly) assumed unimportant. The number of weapons on both sides are so great that doubling those of one side compared to the other has no relevance either. As Robert McNamara once pointed out, beyond a certain point all you can do with more warheads is to rearrange the rubble. The final thing to be kept in mind is that there is no hope that technology will provide some brilliant defense against Soviet missiles—laser battle stations sweeping the skies clean is Star Wars stuff. Indeed, by the year 2000 we could probably put up large lasers on a satellite that would have some capability against missiles, but the cost of a real system would probably be in the trillions, be terribly vulnerable and easily countermeasured. This opinion is shared by former Secretary of Defense Harold Brown and by national security expert Richard L. Garwin, among others. We should continue research in this area, of course, to make sure that there are no surprises lurking but at the present time it would be unwise to count on directed energy weapons as providing a realistic missile defense.

The first important step to be taken in the direction of arms control and eventually arms reduction would be the ratification by the United States of the SALT II Treaty, either as it is or with some modest modifications that could be quickly negotiated with the Soviet Union. This treaty is clearly in the interest of the United States in that it limits potentially threatening Soviet moves (such as preventing an increase in the number of RV's on the SS–18 missile and preventing the encrypting of test data) and essentially does not jeopardize any of our projected weapon systems. More importantly, it places once and for all a cap on the worst case scenario for a Soviet threat, and would enhance the

atmosphere for talks about serious arms reduction, what the Administration terms as START—Strategic Arms Reduction Talks.

The slow pace of the traditional arms control process as compared with what former Secretary of Defense McNamara once termed the "mad momentum of nuclear weaponry" has led many people, such as George Kennan, to suggest truly deep cuts in strategic forces. There are many compelling reasons for deep cuts. The number of weapons on both sides is clearly completely in excess of what is required for mutual assured destruction (MAD). These numbers in themselves generate pressure for finding targets and war-fighting doctrines of flexible response or what W. K. H. Panofsky and S. M. Keeny, Jr., in the most recent issue of "Foreign Affairs" have called NUTS—Nuclear Utilization Target Selection. (Thus, we have MAD vs. NUTS.) From the standpoint of world politics, a proposal for major reductions would be very important—it is what arms control should be doing. A strong argument can be made that resource allocations (both economic and person-power) to continue the arms race is stressing the wrong priorities, even within the framework of our own military establishment, where the need for strengthening our conventional forces is clearly recognizable. Properly done, one can imagine mo ing into a regime of greater crisis stability for both the United States and the U.S.S.R. if the most vulnerable and threatening systems were cut first.

There are many serious questions about precisely how one defines deep cuts. They could be on the basis of numbers of weapons; on what is called equivalent megatonnage, which is a measure of the total yield of the weapons; on throw-weight of missiles; on numbers of launchers (as in SALT I and II); or on various more complicated formulae like fixing the total number of launchers plus RV's or on limiting the total number of nuclear devices, etc. An additional step, often discussed in the past, is a cut-off on the production of fissionable material for weapons. There are obviously a host of complicated technical questions raised about verification of any of these measures.

It is important also to address the question of how one goes about making the deep cuts: Do you proceed gradually by some appropriately defined fractional cuts every year? Do you make a dramatic step of a cut by say 50 percent in all systems as a first step? There are in addition questions of force modernization in the face of deep cuts—if you allow modernization, have you accomplished anything?

I don't have answers to these questions, but I am convinced that there are verifiable and stable deep-cut scenarios that can be evolved which will greatly enhance world security. I believe the climate in this country and in the Soviet Union is more favorable than it has been for a long time for a truly bold step in arms reduction. I hope the Administration and the Congress will seize the opportunity.

Senator PRESSLER. Thank you, for an excellent statement.

Let me say I think this is one of the most detailed and finest descriptions of weapons development over the last 35 years and I'm going to keep it and refer to the factual parts of it as a source.

Let me ask you two questions, if I may.

The development of killer satellites threatens the most important source for strategic weapons verification, for reconnaissance satellites. What can be done to end the development of killer satellites both in the United States and U.S.S.R., and do you have hopes for resumption of negotiations?

Dr. GOLDBERGER. The growing reliance of both the United States and Soviet Union on satellites for both reconnaissance and communications makes the threat to those systems a very serious one.

The Soviets have been testing antisatellite devices for a number of years.

We have an active program that will, I believe, be an excellent antisatellite capability for ourselves.

Just this fall the Soviets also tabled at the U.N. a proposal for a treaty to ban antisatellite weapons, and I believe that it's important for us to try to follow up on that.

At the same time, it's also important for us to develop, insofar as is possible, and there are many things that can be done, more invulnerable satellite systems.

I can't talk about this in detail for obvious reasons.

Senator PRESSLER. My second question is this: The administration is completing, I understand, its review of two treaties that the United States has signed but that the Senate has not ratified, the Threshold Test Ban and the Peaceful Nuclear Explosive Treaties.

Would ratifying these treaties be a sound arms control undertaking or might ratification actually undermine chances for a broader and more meaningful treaty?

What is your opinion?

Dr. GOLDBERGER. I don't believe the Threshold Test Ban Treaty or the Peaceful Nuclear Explosive part of that represents the invention of gunpowder. That's not the greatest thing in the world.

I do believe, however, that a move toward a comprehensive test ban is an important step and this would be a move toward a comprehensive test ban quite clearly.

The issues associated with comprehensive test ban have been debated, to my positive knowledge, for 16 years, and during the latter part of the Carter administration there were a series of negotiations with the Soviet Union to try to—to come to a treaty on comprehensive test ban, which was about 75 percent completed, if that's a meaningful term.

I think that from the standpoint of general political atmosphere, ratification of those treaties would be important. I don't believe that the security of the United States is threatened by a comprehensive test ban. Therefore, I can't feel threatened by those somewhat more restrictive measures.

Senator PRESSLER. Thank you again, and although I don't want to commit myself to all your conclusions, in terms of basic information in this paper, I think it's the best I have ever read.

Dr. GOLDBERGER. Thank you.

Senator CRANSTON. Thank you, very much, doctor, for an absolutely outstanding, very constructive and helpful testimony.

I have quite a few questions I want to ask you because of your expertise, knowledge, and wisdom. I would appreciate if you would be as succinct as you can be so we can cover them all.

First, do you believe the proposed deployment of the MX missile will enhance our security?

Dr. GOLDBERGER. No.

Senator CRANSTON. Do you think that silent hardware will reduce vulnerability in any way?

Dr. GOLDBERGER. No. I can say more, but I'm trying to be succinct.

Senator CRANSTON. Yes. In the decision to do that, in your opinion, would that be perhaps violating terms of the unratified SALT II Treaty?

Dr. GOLDBERGER. That's a technical question about the silent modification.

There seems to be some ambiguity about it, both from the standpoint of SALT I and SALT II and I must confess I don't have the details sufficiently clearly in mind to know whether it would be a violation.

Senator CRANSTON. Do you think there is in the future a point at which this administration, or any administration, will reach the conclusion or should reach the conclusion that nuclear overkill capacity is so large that no new nuclear weapons are needed for security purposes?

Dr. GOLDBERGER. I believe that very strongly.

Beyond a certain point, comparing sizes of nuclear forces in terms of sheer numbers simply loses its meaning. In the first approximation, one might even take the point of view that we have enough nuclear weapons no matter what the Soviet Union does, and I think that's probably true, that no increase in strategic forces on their side, provided our forces continue to be invulnerable, and I believe our submarine force is absolutely invulnerable, can change anything.

Senator CRANSTON. Does this not require constant so-called modernization and improvement?

Dr. GOLDBERGER. You can always be concerned that there will be a miracle of some sort that would give an absolute total advantage to someone were you not to continue a modernization program.

I believe the modernization program could be extremely modest without jeopardizing the security of the country.

Senator CRANSTON. What's your view of the reports that the Reagan administration may propose an amendment to the ABM Treaty to provide defense to MX missiles? Would that add to or reduce our security?

Dr. GOLDBERGER. It would be a minimal step. I don't believe that it would significantly add to our security.

It opens up the specter of having to renegotiate at best or do away with SALT I entirely, which I think would be an extraordinarily dangerous step and set back the cause of arms control enormously.

Senator CRANSTON. In your opinion, if we had an ABM defense in place, would that enhance or jeopardize our security?

Dr. GOLDBERGER. The reason I am hesitating, in the first approximation it would enhance it because it would perhaps marginally, for a certain period of time, increase the survivability of those weapons which were being defended.

On the other hand, the reaction of the Soviet Union would be to increase their offense forces in order to assure their ability to attack those weapons, if that's the way they get their kicks.

Consequently, since the leverage is all on the side of the offense, they would undoubtedly overcompensate and further increase the size of their strategic forces. So the net consequences to our security I think might well be decreased.

Senator CRANSTON. The Reagan administration proposal to put cruise missiles on general purpose submarines, do you see grave verification problems in that?

Dr. GOLDBERGER. Terrible verification problems.

Senator CRANSTON. On the civil defense issues brought forward in Washington, do you believe the fabric of American society could survive an all-out Soviet nuclear attack if we had a full scale Civil Defense program?

Dr. GOLDBERGER. No. I find the statements of T. K. Jones utterly irresponsible. He's been making these statements through irrational testimony for many years. He was totally refuted by Mr. Keeny in

the arms control testimony, perhaps before the Foreign Relations Committee.

I believe Mr. Warburg might be able to help me. I think it was in 1979 or thereabouts. There are no serious—I shouldn't make too strong a statement.

There are a large body of experts who disagree extremely strongly with the positions of T. K. Jones.

Senator CRANSTON. It's reported that the administration is considering dedicating $10 billion to a civil defense effort. While it could not measurably in your view increase survivability for American people in cities and elsewhere, would it add in any incidental way a view of superiority?

Dr. GOLDBERGER. I believe not. I believe it's really counterproductive from a psychological standpoint because it adds fuel to the delusion that you might be able to fight and survive a nuclear war.

Senator CRANSTON. We were told yesterday that every President since Eisenhower, and including him, has rejected similar proposals as ineffective, wasteful, and provocative?

Dr. GOLDBERGER. I think that's correct. The closest we came to getting involved in the civil defense was during the Kennedy administration, which was a brief flurry of interest in putting shelters in individual homes.

When people began to ask seriously what a realistic civil defense system was, they came up with numbers in 1962, of $100 billion. To talk about doing something significant for $10 billion I think is ridiculous.

Senator CRANSTON. When I was in the Soviet Union in September, I went there with Senator Mathias, a Republican from Maryland, a member of this committee, and we posed series of questions on strategic doctrine with the Soviet Union, among them Marshall Ogarkov, the chairman of the Joint Chiefs of Staff, and in every case they answered "no" to these questions. I would like to ask you if you would respond to these questions that were posed to them.

The first is, "Do you believe there can be meaningful superiority in the nuclear arms race?"

Dr. GOLDBERGER. No.

Senator CRANSTON. Do you believe it's likely nuclear war can be limited? Will it probably escalate up to full scale?

Dr. GOLDBERGER. I'm going to answer no, it cannot be limited.

Senator CRANSTON. Do you believe that either side can win a nuclear war?

Dr. GOLDBERGER. No way.

Senator CRANSTON. Do you believe either side can make a successful first strike against others and so devastate them that they cannot respond with equal devastation to the aggressor?

Dr. GOLDBERGER. No.

Senator CRANSTON. Thank you very much for those responses.

Senator PRESSLER. Next we will call on Rabbi Leonard Beerman, cochairman on the Interfaith Center to Reverse the Arms Race who will be introduced by Senator Cranston.

Senator CRANSTON. As he is approaching us, I'm delighted to introduce Rabbi Leonard Beerman, a rabbi at Leo Baeck Temple in West Los Angeles, who is cochairman of the Interfaith Center to Reverse the Arms Race, a very effective umbrella group for disarmament and peace. We're delighted to have him with us.

STATEMENT OF RABBI LEONARD BEERMAN, COCHAIRMAN, INTERFAITH CENTER TO REVERSE THE ARMS RACE, LOS ANGELES, CALIF.

Rabbi BEERMAN. Thank you very much for this opportunity to appear before you. I regret that I learned of this opportunity so recently that I was not able to submit a written statement.

I suppose there's a certain virtue here, in that it will tend to make my remarks more brief, for when you give a microphone to a member of the clergy, there's always the danger that the clergy may have no terminal facilities.

Like a peddler with a pack on his back, wherever a rabbi goes he carries an assortment of notions, ideals.

Many of them are very old and they have found their way into the very being of all that is held precious in this country of ours and even in civilization itself.

Some, like the belief in the possibilities of human compassion and peace, are battered, tired, and worn.

Others, since they come out of a people that has had such a long history, have to do with history itself and history meditated upon too long can be very solemn and very haunting.

I do not like this idea, yet it haunts me more than I wish, and it is this.

History teaches, if nothing else, that every civilization has perished sooner or later. Human social systems with their human beings, anxious, insecure, swollen with pride, driven by the will to power, corrupted by self-intoxication and self-deception, sooner or later sin against the laws of proportion and harmony and plunge into decay and self-destruction.

Every civilization in human history has made such a fatal error. Now our civilization may be in the process of making the same mistake.

We have been so infused with the conceit that we could escape the remorseless fate that has overtaken all previous social systems, that we, with our science and industry, our democracy and ingenuity could violate what appears to be the iron law of history.

The arms race may have driven us to nuclear insanity. Technological processes, uninhibited by human values, have committed the United States and Soviet Union to collective mechanisms of destruction so gross that they defy our imaginations. Our nations have become vast armories and we are now both engaged in enlarging our capacity to destroy one another.

Viewed from another world, surely it must seem that there is on this one a pervasive infatuation with death.

It was precisely to counter the harnessing of the mighty mass of our technique and power and wealth to the preparation of what is really genocide or suicide, that the Interfaith Center to Reverse the Arms Race was formed.

The idea of the center was fashioned almost 3 years ago in 1979 and it began with the friendship of an Episcopal priest, Dr. George Regas; a business executive whom you heard this morning, Harold Willens, and a rabbi, myself.

It was Mr. Willens, freshly returned as a U.S. delegate from the U.N. meeting on disarmament, who expressed to us the belief that the religious community of this Nation could become God's instrument for beginning a citizens movement to slow, stop, and eventually reverse the nuclear arms race.

The three of us pledged to work to advance the Christian and Jewish obligation to preserve the planet.

In October 1979 we held a 2-day conference to which we invited distinguished authorities in the various facets of the nuclear arms race. More than 1,000 attended. The success of the endeavor resulted in the establishment of the Interfaith Center.

Those associated with our center believe there is no moral or religious basis for justifying the use or continued development of nuclear weapons, that the continued proliferation of nuclear arms heightens the possibility that such weapons will be used, that the arms race threatens the health and well-being of the world population and our own by diverting funds from urgently needed human services.

Now, 2½ years since our establishment, the center has a full-time director and staff that provides outreach programs to the religious community in the western region of the country. We have a mailing list of 4,000 with an additional list of 3,000 clergy.

We have published guides for congregations to engage themselves in this issue, a guide for speakers and another for establishing a library, a clergy resource guide and much more.

We publish a monthly newsletter edited by our able director, Ann Sutherland. We conduct workshops. We maintain an extensive reference and film library for the use of congregations throughout this area and we have helped stimulate numerous conferences and symposia in churches and synagogues.

The significant element in the design of this is its distinctive interfaith character. We're happy to be in the company of other religious groups here and throughout the land, with our Catholic colleagues, such as Archbishop Quinn in San Francisco, whom you heard, and Bishop Mathieson of Amarillo, and many others in the country.

Our principal effort currently is to get the bilateral nuclear freeze initiative on the ballot in November of 1982. In the short period of time in our Interfaith Center's existence, we feel we have had a significant influence.

Our board of directors includes Dr. Marvin Goldberger, whom we just heard, Mr. Norman Cousins, Norman Lear, Kenneth Rhodes, who is chairman of the board of trustees of Scripps College, fellow clergymen and other influential community leaders.

In a world of confused, hungary, tormented people, hundreds of billions of dollars are being spent every year and we have now committed ourselves as a nation to spend in the next 5 years a trillion and a half dollars. That is almost $300 billion every year. And I ask you, what is the task of people pledged to be witnesses to the God of creation?

Is it not to bring life to the earth, not death? Is it indeed God whom we worship when we build weapons capable of destroying hundreds of millions of his children? Is it God or Moloch, the ancient god who demanded child sacrifices?

Nothing in this world is worth the destruction of Los Angeles or Leningrad or Sioux Falls.

Life is too short and the Earth is too small for anything to be more important than the quest for peace.

The nuclear arms system is deeply embedded in us, but deeper still I believe with perfect faith, is the instinct to make the world beautiful for our children, the instinct to heal the wounds and not lacerate the human family, the instinct to feed and not steal from the hungry, the instinct, to quote the words of my friend George Regas, "to do something with hope and heart and love in it."

I come from a people, the Jewish people, which knows that the unthinkable can happen. We see in the destruction of Europe Jewry by the Nazis a model for destroying the human species, and that is why we have a special duty to warn that a technology unbridled by human values can transform the planet into a crematorium, and to reaffirm the fundamental importance of the quest for peace.

We believe that in each of us, in our friends and in our enemies, there are powerful armies of moral strength. The choice is ours, even as it has been since God first spoke the challenge as recorded in the book of Deuteronomy. "See I have set before thee this day life and death, the blessing and the curse. Therefore, choose life, that thou mayest live, thou and thy seed."

Thank you very much.

Senator PRESSLER. I thank you for a very elegant statement.

Let me ask you. I'm trying to understand better the freeze. Does your organization have an opinion on a unilateral freeze?

Rabbi BEERMAN. We have not taken a position on the question of unilateral freeze. At the moment we are associating ourselves with the current endeavor that Mr. Willens described in such detail this morning.

Senator PRESSLER. I have no further questions. Thank you.

Senator CRANSTON. Rabbi, I would like to simply say "Amen" to an incredibly beautiful, articulate, moving, thoughtful statement, the plight of humanity at this time.

I do have two questions I want to ask you.

Would you please expand on your views regarding the appropriate role of the church in such public policy issues as the nuclear arms race, particularly in view of the criticism certain fundamentalist groups have received for their involvement in social issues concerning them?

Rabbi BEERMAN. I think it's necessary for the church and the synagogue to attempt to articulate the moral conscience. That's the function of religion in human life. It's certainly the function of religion as perceived by the Judeo-Christian tradition emanating from the prophets of ancient Israel.

I think the criticism of certain groups is not because they attempt to articulate the conscience, but because they take a dogmatic position, but because they imply that only those who hold their positions can find salvation and can be truly called believers in God.

The error of such groups as the Moral Majority is not that they speak out on such issues. It's the way that they speak that should be condemned.

Senator CRANSTON. I would like to get your general thoughts on how we get more citizens involved in the problems posed by the arms race. How do we make people aware of the unique dangers confronted us by the arms race?

I'm constantly told by some people that the people don't want to hear about this, that they close their minds to it, that it's unimaginable, seems out of hand and so you assume that they just want to think about other things.

That's blinding ourselves toward reality. And in my opinion, we have to face it and we have to lead people to confront this and come to grips with it and support the effort to overcome the problem.

There comes to my mind, when people say that to me, something that George Washington said when our country was in the process of being born. There were those that said there could not be a United States of Americans: We were going to be a balkanized continent with 13 or more separate States with wars against each other. Washington made a speech of which one bit brings down to the present remarkable overtones. What he said is:

> It's too probable that no plan to be proposed will be adopted. Perhaps yet another dreadful conflict is to be sustained. But if it please the people, we offer that which we ourselves disapprove, how can we afterward defend our word? Let us stand with the wise and honest and repair the events at the hand of God.

I would be interested in your analysis of how we come to grips with that particular aspect of the problem.

Rabbi BEERMAN. It is the phenomenon of psychic numbing and denial, whatever label we want to give it; namely the inability or unwillingness of our people to reckon realistically with the implications and consequences of nuclear war, as a reality that has to be dealt with.

Fortunately, I think over the passage of these last few years we have began to see significant changes and I think the religious community has contributed to that change.

But this is a responsibility that all of us have and it seems to me that those who represent us in Congress and the Senate have a special responsibility. I don't feel that our political leaders have leveled with the American people.

Those who have sat on committees, such as this one, and have heard expert testimony over the years about the consequences of the nuclear war have not helped to bring the people to a full and honest understanding of the horror of nuclear war.

That's why I commend what you are doing here today, Senator Cranston. This must be a part of an ongoing process which will hopefully burgeon, because as ugly and tragic and brutal as all of these facts are, they need to be placed before the people.

In medicine today, through the influence of Government regulation, there is no medical procedure which can be undertaken in any hospital without the informed consent of the patient.

It's time that we place before the American people the opportunity to give their informed consent, and that means that we will tell them the truth about what is happening.

I know you are trying to do that and I commend you.

Senator CRANSTON. That's a superb and a very helpful response. One more question.

How do you feel we overcome our fears and suspicions about Soviet intentions and Soviet fears and suspicions about our intentions and open a meaningful dialog that can lead to substantive, significant, constructive results in relations between our two nations and avoid

getting lost in all the arcane technicalities of arms control and get to the substance, the need to cut back the verifiable fair ways to end this danger?

Rabbi BEERMAN. My great fear, and I stated it at the beginning, at least obliquely, is that we will not come to the understanding without experiencing some profound trauma.

Frequently, in our personal lives we're not able to make a significant change in our way of thinking until we have been clubbed over the head. A good solid coronary can do it to some individuals, or the confrontation with disappointment in personal life.

I'm working—and I know you want to work in the same direction—to try to achieve this realization of our common danger and our common destiny and the need for enemies to live in the same world regardless of what we feel about one another—without the need of a cataclysm.

Our own center recently hosted a visit of 10 Soviet citizens coming from different walks of life in the Soviet Union precisely for that purpose, to try to break through all of this technological garbage and penetrate the human core that we know is present in each of us.

It was a very difficult encounter. We had to deal with our own prejudice, with their dogmatisms, and there was a lot of bitterness and argument involved in it, and yet we felt it was absolutely essential that this take place.

I see the possibility of such citizen dialog as one of the means. I think the crucial thing is the principal which was not given on Mount Sinai with a lot of the other religious ones, but it is one that my father taught me when I was a small boy.

When he placed a baseball bat in my hands, showed me how to swing it, and then spoke those immortal words, which I have tried to hold before me ever since, when he said "Son, the important thing is to keep your eye on the ball."

In this instance, the ball that we have to keep our eye on, is our capacity to destroy one another, our inability to survive a nuclear war.

If we can focus on that, I think it can help us to bridge some of the differences that divide us at this moment, and it can help us to reach out to the common humanity in all of us.

I would say one more thing. I come from a religious tradition which believes in both justice and love, but we don't believe that the ultimate resolution of human conflict necessarily has to await the arrival of love.

We might have said, as have some religions, that when human beings come to love one another, they will learn to treat one another with justice and therefore when that happens, all the black people, say, of the United States will be treated fairly.

In our tradition, we view it differently. Yes, ultimately, we would like human beings to love one another, but in the meantime there is a law of justice in the world, and even if we hate our enemies or we hate individuals, we must treat them with justice.

There is a danger confronting the world today. Even if we hate our enemies, even if we fear them, I think if we can keep our eye on the ball of mutual destruction, we can at laest treat one another in such a way as to avert catastrophe.

Senator CRANSTON. I thank you very much. It's impossible to thank you adequately. You are a beautiful spokesmen.

Senator PRESSLER. I shall call on Mr. James Digby, California Seminar on International Security and Foreign Policy of Santa Monica. Good morning.

Senator CRANSTON. I'm delighted to welcome and introduce Mr. James Digby, who is head of the California Seminar on International Security and Foreign Policy.

He's associated with the Rand Corp. and will give us a different perspective on limitation of arms control.

[Mr. Digby's biographical sketch follows:]

BIOGRAPHICAL SKETCH OF JAMES DIGBY

James Digby is Executive Director of the California Seminar on International Security and Foreign Policy and a member of The Rand Corporation's senior staff. Digby was an early contributor to Rand thought on air defense and nuclear strategy. In the fifties he headed its Operations Department, and later was Program Manager for International Studies. In the early sixties he was appointed by President Kennedy to a task force which proposed a new air traffic control system for the United States. Later he headed a group with the NATO Force Planning Exercise, and recently he has worked on the implications of new technology for military postures and arms control. Digby is one of the organizers of the European-American Workshops and a director of the sponsoring European-American Institute for Security Research. His published work includes contributions to "The Other Arms Race" (Heath, Lexington, 1975), and "Beyond Nuclear Deterrence: New Aims, New Arms" (Crane, Russak, and Company, New York, 1976). He is the author of "Precision-Guided Weapons," Adelphi Paper No. 118 (IISS, Summer 1975), "New Weapons and the Dispersal of Military Power" (California Seminar, September 1978), "The Emerging American Strategy: Application to Southwest Asia" (Rand N–1700–FF, May 1981), and numerous other publications.

STATEMENT OF JAMES DIGBY, CALIFORNIA SEMINAR ON INTERNATIONAL SECURITY AND FOREIGN POLICY, SANTA MONICA, CALIF.

Mr. DIGBY. Thank you very much.

I might note that I speak for myself this morning. It's a pleasure to be here and there are a number of reasons for taking another look at arms control, a fresh look.

There are a number of Californians that have made fundamental contributions to understanding how to cope with the perils of the nuclear age. So I think it's appropriate that you decided to have this set of hearings in California.

Deterrence was elucidated early on by Californians like Albert Wohlstetter and Bernard Brodie, who did ground breaking work on nuclear strategy.

The strategists in the Kennedy administration were largely Californians and they brought about the change in NATO away from automatic nuclear response.

There was Fred Iklé on deterrence theory, Wohlstetter on trying to stop nuclear proliferation, and Herb York and Mike May who have done much good work on nuclear and other negotiations. Then there are three recent Secretaries of Defense.

The message of my testimony is that there is a great deal in common in the objectives of the people who were calling for disarmament and those who are calling for military preparedness.

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The possibility that I'm setting forth is that inspired political leadership might combine elements of these popular currents, which you have heard about this morning as being so strong, into courses for stability and for the avoidance of nuclear war as well as for the maintenance of Western freedoms.

Let me review these two trends. The first trend we have all observed in recent elections: to support a military buildup. In the United States this helped elect a President who proposed major increases in military strength. It provided a political atmosphere where a major increase in military spending was approved this fall in Congress with remarkably little debate. Even in Europe, NATO leaders were able to promise a 3-percent rise in real spending for arming. One must agree that this trend represents a popular mood when you look at election results.

The second trend is also very important. It's more of an impassioned plea and so far its advocates are not yet carrying the elections. There are antinuclear parades, demonstrations, and here in California, the "nuclear freeze initiative." In Europe the clergy has been active and in America we hear not only from the Protestants but from the rabbis and notably, Catholic bishops.

One thing that can be agreed by nearly all of these people is the horror and widespread devastation that would result if nuclear weapons were used against population centers.

American military professionals, Soviet planners, and even people like disarmament advocate Helen Caldicott would probably have a general first order agreement on these and the following consequences. You note I didn't include T. K. Jones among the people I said would be in this broad agreement. As Murph Goldberger said, he's long been known for a somewhat unique point of view.

My observation is that where most people who have studied these matters differ is in their assessment of the likelihood that small conflicts will devolve into large ones, the likelihood that nuclear weapons will be used in a local conflict if they are available, and the inevitability of escalation from a small nuclear war to an all-out nuclear exchange.

In other words, some see it as possible to manage the nuclear balance, to keep these nuclear forces in check for a long time.

Others believe if these weapons are possessed, they are fairly likely to be used. There is no objective way to settle these arguments. We're fortunate that history has only partial lessons for us on that.

Almost all of the people who favor nuclear disarmament also favor decreasing the likelihood of war and decreasing the devastation of war, should there be one, and it is on this agreement that I base my testimony today—which deals largely with nuclear war.

I suggest a set of actions that can serve goals sought by both the advocates of military strength and those people who want to avoid nuclear war.

In the climate of this year I believe more progress can be made if both sets of advocates seek common ground. I suggest three areas.

First, to find ways to make nuclear weapons less relevant to the security strategies of nations.

Second, to make nuclear weapons a less attractive target.

Third, to make it harder for additional countries or groups to get nuclear weapons.

First, on making nuclear weapons less relevant, there's a maxim that I think should be heeded by more people concerned with arms control: Seek agreements to ban or constrain weapons which have the least assurance of being militarily effective and politically usable.

Considering President Reagan's recent proposals for a zero option, I think the people for nuclear arms control should take him up on that. As Ernest Conine said in a Los Angeles Times editorial, set the administration's feet in concrete and don't let them go backward from that position.

I think this was a very serious proposal, carefully staffed out and thoroughly discussed inside the Government ever since Chancellor Schmidt suggested it in the fall of 1979.

I think other weapons can carry out much of the military mission of the potentially banned weapons, that zero is easier than other members to verify, that it was going to be hard to keep the new theater nuclear missiles from being vulnerable, and that their control promises to be difficult.

There are even better candidates for constraint.

I'm referring to the shorter range nuclear weapons. They are really very difficult to protect and control. I would suggest seeking bilateral constraints on these shorter range theater nuclear missiles and such weapons as atomic demolition mines.

These weapons inherently have some serious vulnerability problems. Most of them were devised without much regard for the political aspects of their use; they were simply ways of getting bigger weapons effects.

Many were intended to serve the urgent needs of the lower level front-line command, but it can be argued that their first use or controlled use would really amount to a profound political act, an act governments would not wish to make in haste or to delegate to lower echelons.

Increasingly, nonnuclear weapons and especially precision nonnuclear weapons, can handle most of the military tasks that these shorter range nuclear weapons were put there to handle.

Let me turn to the second area—decreasing the attractiveness of nuclear missiles as targets.

If one side has a group of nuclear weapons that could be very devastating once they get launched but which are susceptible to being wiped out if the enemy strikes first, this provides him a strong incentive to go first if he thinks erroneously that these missiles are to be launched.

Thus, a great factor in making a posture stable is to protect one's weapons so they can ride out the attack and still be on call. And the more time a national command takes to size up matters, the better the chance things can be settled with a minimum of violence.

While there has been some progress in reducing the vulnerability of U.S. nuclear weapons systems, and also that of their control systems, there has not been enough progress. We have done little to encourage the Soviets to decrease their vulnerability, though that would be an interesting area for negotiations and it would be in our interest if they decided to decrease their own vulnerability.

Let me mention the third area: making it harder for more countries to get nuclear weapons. I think there is something to be said for nuclear maturity, and, hopefully, we in the United States, in Britain,

and in Russia have a sobering body of knowledge about the consequences of using nuclear weapons. Hopefully long reflection by our various bureaucracies has led to views that nuclear weapon use must be restrained by political considerations over the long term.

Can we say as much for some of the governments often thought to desire nuclear weapons: Iraq, Pakistan, Israel, South Korea, Libya, and South Africa?

There is a widespread belief that the toughening of U.S. policies achieved in the last half of the 1970's and embodied in the Nuclear Non-Proliferation Act of 1978 is being softened by the Reagan administration in favor of making the United States a reliable supplier of nuclear materials.

Assistant Secretary of State James Malone has indicated that the United States will participate in international commerce in plutonium and this will almost certainly make bomb production easier for some nuclear aspirants. The practical consequences of these new policies may not be felt immediately. There is time for these policies to benefit from careful congressional oversight.

The thought I would leave with you on this point is that policies that facilitate nuclear proliferation may also make nuclear use by the large powers more likely. Facilitating instability is something the world can do without.

I'll close with a few observations on the California Bilateral Nuclear Weapons Freeze Initiative. The concerns of the people that advocate this freeze are in my view justified and genuine. The debate over the initiative is serving the useful purpose of informing the electorate on these important issues which your subcommittee is investigating.

But I believe the proposal has come more from the heart than from the mind.

For example, the word "bilateral" is in the title because the initiative urges that the United States propose to the Soviet Union that both countries participate in the freeze. But nothing that we have seen about Soviet behavior suggests that they would buy off on an effective proposal, nor have I heard from the advocates of the freeze about incentives from the Soviet point of view, based on the observations about their past actions.

Let me agree in part with Rabbi Beerman. His comments, by the way—all but about five sentences—I could agree with, despite the position I just stated. But I agree with him that to be responsible, advocates should learn more.

I think voters should become more familiar with three topics:

First, they need to study past negotiations for a comprehensive Nuclear Test Ban Treaty. Second, they need to look at Soviet responses to United States arms actions and United States arms control proposals, and, third, they need to be informed on the theory of deterrence in the nuclear age.

Actually, a reasonable acquaintance with these matters could be had by reading a total of about 150 pages. I would suggest, for example, Herb York on the test ban negotiations, Andrew Marshall—he's now one of the assistants to Mr. Weinberger—on "Bureaucratic Behavior and the Strategic Arms Competition," a California Seminar publication, and Thomas Schelling's first chapter in "The Strategy of Conflict."

Unfortunately, the average voter would really find it hard to locate reprints of these.

Instead of the concerned citizen devoting his energies to the freeze, which I think is not likely to achieve its aims, I would suggest that he use these energies to learn more about the past dealings of the Soviets, about their patterns and incentives, about the mechanics of deterrence, and about the actions that could make for stability. Then an informed electorate can work with their elected representatives to work out proposals more likely to succeed.

I have set forth actions that seem to be within practical reach and which might lead both to reductions in nuclear arsenals and decreases in the likelihood of nuclear war.

For the larger powers, a decision to use nuclear weapons is very hard to make. We should make it even harder to make. The moves I suggest recognize the validity of concerns about the horrors of nuclear war, but they do not invite instability by undermining Western military strength.

Thank you.

[Mr. Digby's prepared statement follows:]

PREPARED STATEMENT OF JAMES DIGBY

Political observers are currently noting two trends in public opinion in Europe and in America: first, a desire to build up military strength, and second, a growing uneasiness about the overhanging horrors of nuclear war.

The first trend has, in the United States, helped to elect a president who proposed a major buildup of military strength. It has provided a political atmosphere in which a major increase in defense spending was approved by the Congress with remarkably little debate. Even in Europe, NATO leaders were able to promise a 3 percent rise in real spending for arming. That this trend represents a popular wish was confirmed by several elections.

The second trend has more of the character of an impassioned plea by members of a deeply moved minority. There are parades, demonstrations, and, here in California, a petition to place on the ballot a nuclear weapons freeze initiative. In protestant Europe the clergy has been active in various antinuclear drives; in America a number of Catholic bishops are speaking out for a nuclear weapons freeze.

One thing that can be agreed upon is the horror and widespread devastation that would result if nuclear weapons were used against population centers. American military professionals, Soviet planners, and Australian disarmament advocate Helen Caldicott would probably have a general first-order agreement on these appalling consequences. My observation is that where people who have studied these matters differ is in their assessment of the likelihood that small conflicts will evolve into larger ones, the likelihood that nuclear weapons will be used in a local conflict if they are available, and the inevitability of escalation from a small nuclear war into an all-out nuclear exchange. In other words, some see it as possible to keep these great forces in balance for a long time; others believe that if weapons are possessed they are fairly likely to be used.

There is no objective way to settle arguments. We are fortunate that history has only partial lessons for us.

But almost all of the people who favor nuclear disarmament also favor decreasing the likelihood of war and decreasing the devastation of war, should there be one. And it is on this agreement that I will base my testimony today—which will deal largely with nucelar war. I will suggest a set of actions that can serve goals sought by both the advocates of military strength and those who want to avoid nuclear war. In the climate of this year, I believe more progress can be made by sets of advocates if they seek some common ground.

I suggest three areas of effort:

To find ways of making nucelar weapons less relevant to the military strategies of nations.

To make nuclear weapons a less attractive target.

To make it harder for additional countries or groups to get nuclear weapons.

MAKING NUCLEAR WEAPONS LESS RELEVANT

There is a maxim that I think should be heeded more by people concerned with arms control: seek agreements to ban or constrain weapons which have the least assurance of being militarily effective and politically usable. Incidentally, these have a high potential for instability.

Consider President Reagan's proposal for the "Zero Option." I believe this was a very serious proposal, carefully staffed out, and thoroughly discussed inside the government since Chancellor Schmidt suggested it in the fall of 1979. I infer that the people doing the staff work had several things in mind: that other weapons could carry out much of the military mission of the banned weapons, that zero is easier to verify than, for example, 109 or 217, that is was going to be hard to keep the new theater nuclear missiles from being vulnerable, and that their control in both a political and technical sense promised to be difficult.

But there are even better candidates for constraints. The protection and control of the relatively long-range cruise missiles, Pershing IIs, and SS–20s is not as difficult as it is for some of the shorter-range nuclear systems. I would suggest seeking bilateral constraints on these shorter-range theater nuclear missiles and on atomic demolition mines. These weapons—and their control system—inherently have some serious vulnerability problems. Most were devised without much regard for their political aspects as ways of simply getting more extensive weapons effects. Many were intended to serve the urgent needs of lower level front-line commands. But it can be argued that their first use—or later controlled use—would really amount to a profound political act, an act that governments would not wish to make in haste, nor delegate to lower echelons. Increasingly, however, non-nuclear weapons—especially precision weapons—can handle most of the military tasks of the battlefield nuclear weapons.[1]

In mentioning these candidates I do not mean to imply that it is acceptable to make drastic unbalancing moves or that there should be any sudden diminution in the strength of the U.S. nuclear guarantee to NATO. Rather, there should be an effort with full coordination with U.S. allies to seek some reduction in nuclear dependence by both East and West. Both East and West can find nonnuclear ways to do many military jobs and both have incentives for eliminating nuclear tasks in lower echelons.

As just mentioned, one way of doing this is to make more use of nonnuclear precision-guided missiles—a subject that I have studied for some years. In typical situations, precision missiles might be well dispersed, and thus not a lure for the other side to strike first. While this is a complex argument that I should not go into here, the possession of equivalent short- and medium-range precision missiles by both sides tends to be better for the defense than for the offense in any local area. On balance, this makes for stability.

DECREASING THE VULNERABILITY OF NUCLEAR SYSTEMS

If one side has a group of nuclear missiles that could be very devastating if launched, but which are susceptible to being wiped out if the enemy strikes first, then these provide a strong incentive for that enemy to strike if he thinks—perhaps erroneously—that these missiles are about to be launched. Thus a great factor in making a posture stable is to protect these weapons so that they can ride out an attack and still be on call. And the more time a national command takes to size up matters, the better the chance that things can be settled with a minimum of violence.

While there has been some progress in reducing the vulnerability of U.S. nuclear weapon systems and also that of their control systems, there has not been enough progress and we have done little to encourage the Soviets to decrease their vulnerability—though it is in our interest that they do so.

In this testimony I had not intended to say much about regional wars. But I should point out a parallel argument: if there are localities—say in the Persian Gulf region—which are important to the West, but coveted by the Soviets, and if

[1] For a cogent discussion of shifting away from reliance on short-range nuclear weapons see Laurence Martin, "Theater Nuclear Weapons and Europe" Survival, November/December 1974. Also note Fred C. Iklé's comment as Director of ACDA: "We have no intention to move in a direction that could blur the distinction between nuclear and conventional war." (The New York Times, May 24, 1974.) For a treatment of both the advantages and shortcomings of nonnuclear precision guided missiles see "New Technology and Control of Conventional Arms," by S. J. Dudzinsky, Jr. and James Digby, International Security, Spring 1977, pp. 143–159.

the West is unable to defend them, then these could attract attack much like the vulnerable missile sites, and be sources of instability. A conflict in the Persian Gulf could grow into one in Europe or into a general war.[2] Given U.S. responsibilities, stability is poorly served by its leaving vital Western interests so poorly protected that they attract attack.

MAKING IT HARDER FOR MORE COUNTRIES TO GET NUCLEAR WEAPONS

I think there is something to be said for nuclear maturity. Hopefully, in the United States, Britain, and Russia there has grown up a body of knowledge about the consequences of using nuclear weapons; hopefully, long reflection by their bureaucracies has led to views that nuclear weapon use must be restrained by political considerations over the long term. But could we say as much for some of the governments often thought to desire nuclear weapons: Iraq, Pakistan, Israel, South Korea, Libya, and South Africa?

There is a widespread belief that the toughening of U.S. policies achieved in the last half of the 1970s, and embodied in the Nuclear Nonproliferation Act of 1978, is being softened by the Reagan administration in favor of making the United States a "reliable supplier" of nuclear materials. Assistant Secretary of State James Malone has indicated that the United States will participate in international commerce in plutonium; this would almost certainly make bomb production easier for some nuclear aspirants. Senator Glenn has commented that proposals now being discussed would leave only a "toothless policy."

But the practical consequences of these new policies may not be felt immediately. There is also the prospect that these policies will continue to receive careful Congressional oversight.

The thought I would leave with you is that policies that facilitate nuclear proliferation may also make regional nuclear use by the large powers more likely. That is a facilitating of instability that the world could do without.

THE NUCLEAR WEAPONS FREEZE INITIATIVE

I will close with a few observations on the California Bilateral Nuclear Weapons Freeze Initiative. Petitions are now being circulated to put this measure on the state ballot next November. The concerns of the people who advocate this freeze are, in my view, justified and genuine. The debate over the initiative may serve the useful purpose of informing the electorate on these important issues which your Subcommittee is investigating. But I believe that the proposal has come more from the heart than from the mind.

For example, the word "bilateral" is in the title because the initiative urges that the United States propose to the Soviet Union that both countries participate in the freeze. But nothing that we know about Soviet behavior suggests that this proposal would be effective. Nor have I heard the advocates discuss incentives from the Soviet point of view.

To be a responsible advocate I suggest that one should be familiar with three topics: The negotiations for a comprehensive nuclear test ban, Soviet responses to U.S. arms actions and arms control proposals, and the theory of deterrence in the nuclear age. Actually, a reasonable acquaintance with these matters could be had by reading a total of about 150 pages. I would propose, for example: Herbert York and G. Allen Greb on the test ban negotiations (a California Seminar monograph), Andrew Marshall on Bureaucratic Behavior and the Strategic Arms Competition (also from the California Seminar), and Thomas Schelling's first chapter in The Strategy of Conflict.[3] Unfortunately, the average voter considering the initiative would not only not have seen these, he would find it hard to locate copies or reprints.

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[2] Many discussions of military needs in Europe are deficient in not treating the context in which a war might begin. The notion that war might start on a day selected long in advance by "the gnomes in the Kremlin basement" is hardly plausible. Instead, one should be much more concerned about a war in Europe which arises out of the escalation of events elsewhere. The course of conflict in Southwest Asia is likely to have surprises for both parties and the unexpected could well lead to a wider war. Fortunately for the cause of stability the Soviets style is more one of the inexorable grasping of opportunities over a long term than of recklessness or idiosyncracy. Unfortunately, many of the local powers in Southwest Asia are not similarly guided by cautious leaders or entrenched bureaucracies.

[3] Complete references are Herbert York and G. Allen Greb. The Comprehensive Test Ban Treaty, California Seminar on International Security and Foreign Policy, Santa Monica, 1979; Andrew Marshall, Bureaucratic Behavior and the Strategic Arms Competition, California Seminar on International Security and Foreign Policy, Santa Monica, 1971; Thomas Schelling, The Strategy of Conflict, Harvard University Press, Cambridge, 1960, pp. 3–20. For a quantitative treatment, see Albert Wohlstetter, "Is There a Strategic Arms Race?" in Survival, November/December 1974.

Instead of the concerned citizen devoting his energies to the freeze—which I think is neither thought through nor practical—I would suggest that he use those energies to learn more about past dealings with the Soviets, about their patterns and incentives, about the mechanics of deterrence, and about the actions that make for stability. Then this informed electorate could work with its elected representatives to bring about some proposals more likely to succeed.

I have set forth today a few ideas for actions that seem to me within practical reach and which might lead both to reductions in nuclear arsenals and to decreases in the likelihood of nuclear war. For the larger powers, a decision to use nuclear weapons is very hard to make; we should build on that and make it even harder. The moves I suggest recognize the validity of concerns about the horrors of nuclear war, but do not invite instability by undermining Western military strength.

Senator PRESSLER. Thank you for a very helpful statement and stimulating.

Let me say the quality of our witnesses today is excellent, and we are proud of that tradition here.

Please expand for me on what you meant in your testimony that policies that further nuclear proliferation may also mean regional nuclear use by the large powers more likely?

Mr. DIGBY. What I mean by that, Mr. Chairman, is that little instabilities grow into big instabilities and that if a local power brings a nuclear weapon into a certain region of the world—for example, into Pakistan—that the other side may then invoke nuclear weapons to keep them in line; that is, the Soviets might come in to help counterbalance the Paks, and I would hope the United States would not have to come in and counterbalance the Soviets.

The possession of nuclear weapons and delivery systems in the hands of bureaucracies that have not had a very long learning experience in this nuclear world seems to me dangerous.

Senator PRESSLER. What is your opinion of the possibility of regional nuclear freeze zones; that is, Latin America or the Middle East?

Mr. DIGBY. I think the nuclear freeze in the Western Hemisphere is likely to work very well. It had a lot of support and was adopted soon enough to have some real effect; also, the motivation of those involved to have nuclear weapons was not very great.

The hardest place to get a breeze would be in Southwest Asia, and yet that's probably the most important place. My opinion is that it's impractical to get a regional nuclear freeze in Southwest Asia.

Senator PRESSLER. Thank you.

Senator CRANSTON. Mr. Digby, I thank you very much for your testimony I share your concerns and your views of the present policies with regard to nuclear proliferation. I believe that if the present people in Washington are to reduce the effectiveness of efforts that we have undertaken to try to control nuclear proliferation. I'm concerned like Senator Glenn, that we're developing a toothless policy.

On the matter of our relations with the Soviet Union on nuclear matters, I believe you were a critic of the SALT II Treaty; is that correct?

Mr. DIGBY. Not a very active one. It turns out I was working on something else then. I was mildly skeptical about the SALT II Treaty because of things having to do with verification and I thought we weren't bargaining hard enough. I was not a hard out-and-out critic.

Senator CRANSTON. Do you agree with the often expressed view

that the United States lost an opportunity to restrain the growth of nuclear weapons when we failed to propose controls on MIRVing during the SALT II negotiations?

Mr. DIGBY. You are getting out of my main area of expertise, but with that qualification, I would say that it would have been a good area for some kind of agreement. The research and development on MIRVing is quite easily detected and we would have had a pretty good means of verification if we had gotten this constraint adopted very early.

Senator CRANSTON. Do you think we may be making the same mistake with cruise missiles and we should be trying to negotiate with them while we're ahead of them?

Mr. DIGBY. I really believe the opposite, sir. I think that the cruise missile is going to be with us for a long time. I think it has been around in the Soviet inventory since about 1959. We had some ourselves in the mid-1950's, and what's really happened is that we have learned how to guide them much more accurately.

So I think their elimination is practically impossible and would not be verifiable.

Senator CRANSTON. Do you concur with the administration's view that to achieve nuclear reduction we need to increase our arsenal so we can bargain from a so-called position of strength?

Mr. DIGBY. I believe we should increase our general military strength.

Senator CRANSTON. Are you speaking of conventional forces?

Mr. DIGBY. Conventional. I don't see much point in increasing the total number of nuclear weapons, and in fact in my testimony, I suggested that we are not all that sharp on how we will use all of them. Getting rid of those I suggested might be the first step in getting rid of nuclear arsenals.

I'm thinking specifically of the shorter range nuclear weapons and those things that were bought in the 1950's just because they had a bigger bang.

Senator CRANSTON. In regard to the concern of statements over T. K. Jones and Eugene Rostow and others, do you believe the fabric of modern society could survive an all-out exchange of nuclear weapons with the Soviet Union?

Mr. DIGBY. I'm afraid my wisdom doesn't extend to such catastrophic matters. I believe there would be very widespread catastrophe. Where I might differ from Marvin Goldberger is that modest preparations for civil deefnse, which don't have a great economic cost—something more or less of the sort that the Russians have been doing—might be a mild palliative. They will not be so great a palliative as to encourage anybody to start a war, though.

The outcome with or without civil defense would be so devastating that no sensible person would want to have that war.

One codicil on that, sir, is that I believe in putting modest resources into a civil defense program in case the well known fallibility of the human race does somehow lead to a nuclear exchange—this should not be ruled out altogether.

Senator CRANSTON. Thank you very much.

Senator PRESSLER. We will now call Dr. Roman Kolkowicz, who is the director of the Center for International and Strategic Affairs.

Senator CRANSTON. I'm delighted to welcome you, Doctor.

I know you're head of the UCLA arms control program, Director of the Center for International Strategic Affairs and a very respected scholar of arms control matters. Welcome.

STATEMENT OF DR. ROMAN KOLKOWICZ, DIRECTOR FOR INTERNATIONAL AND STRATEGIC AFFAIRS, LOS ANGELES, CALIF.

Dr. KOLKOWICZ. Thank you very much.

Senator, it is a great privilege to be here and to testify on these important matters. I'll restrict my remarks because time is gone and I think most of the things I wanted to say, one way or the other, have already been said by my colleagues who preceded me.

I believe there was one aspect of the problem of arms control that was not treated as broadly or as adequately as would I have liked, and that is the assumptions about Soviet objectives, Soviet interests, and Soviet attitudes toward the whole range of problems we have discussed this morning.

In other words, since nuclear war deterrence, arms control, and détente are all assumed to be bilateral, in a sense each is interdependent, and it is therefore important to try to understand how the Soviets perceive this matter.

Soviet and American leaders have in the past dozen years been conducting extensive negotiations on arms control. These negotiations have resulted in several treaties and agreements whose objectives were: To prevent nuclear testing in outer space, in the atmosphere, on land, and underwater; to prevent the proliferation of nuclear weapons beyond the few existing nuclear powers; to prevent the deployment of nuclear weapons in space, on the sea-bed, and in several designated nuclear-free zones around the globe; to prevent uncontrolled arms races by agreeing to halt arms production and deployment to certain numerical ceilings and ratios; and to prevent accidental, escalatory war spirals through the establishment of hotlines and other means.

These arms agreements were paralleled by two other major Soviet-American policy initiatives that aimed at the normalization and stabilization of a whole range of outstanding issues and in effect constituted the three legs of the post-Cold War policy triad between the superpowers. Thus arms control negotiations and policies coincided with the era of United States-Soviet détente, and with the achievement of stable nuclear deterrence based on a balanced parity relationship in nuclear and strategic weapons. Arms control was to slow down and reverse the vertical growth and the spread of nuclear weapons; détente was to create a favorable diplomatic and political climate for negotiations instead of confrontations between the superpowers; stable nuclear deterrence was to reduce the incentives and increase the risks for the initiation of nuclear warfare.

Let us now briefly examine how expectations translated into concrete reality. The prevailing and commonsense assumptions and expectations regarding arms control, détente, and deterrence were overwhelmingly benign and positive. It was generally assumed that these policies would serve to stabilize and normalize international relations, would save money, and would reduce the probability of conflict and war.

Détente was assumed to lead to: Reduction of ideological, Cold War tensions and hostilities between the Communist and Western countries—encapsulated in the Nixon-Kissinger slogan "negotiations instead of confrontations"; reduction of the sense of threat perception across boundaries, and thus not only further the stabilization of East-West relations in Europe, but equally important, it was assumed that there would be a spillover effect of this new normalization between the superpowers into the peripheral areas, effectively translating Soviet-American détente into the Middle East, Africa, and Asia. The concept of linkage associated with the Nixon-Kissinger policy reflected this hope; reduction of oppressive domestic, totalitarian policies in the Communist countries. This reduction would also be accompanied by open borders, free exchanges, reduced censorship, and greater freedom. The Helsinki accords expressed these aspirations and goals; and reduction of nuclear proliferation threats as a result of the assumed more relaxed, peaceful, and stable world of détente.

And yet, détente seems to have failed to bring about most of these anticipated objectives, and appears instead to have stimulated countervailing patterns. For, in the decade of détente we have observed the following developments: Tensions, confrontations, and wars around the world have not abated. The previous areas of East-West confrontations have merely moved from Southeast Asia and Europe to the Middle East, Africa, and other parts of Asia; nuclear proliferation remains a very grave threat to world peace and stability, and the massive arms trade in conventional weapons to the Third World has reached disturbing proportions; and human rights and personal freedom of the people in the Communist and other countries remains an empty dream. Police states and military dictatorships continue to proliferate, while the democracies remain a small island in an encroaching tide of unfreedom.

Nuclear deterrence was also assumed to have clearly benign and positive objectives. Nuclear deterrence from a position of strategic equality between Russia and the United States was expected to: Enhance national security since an adequate and credible deterrence capability would not only dissuade potential aggressors from irrational acts, but it would also enable the superpowers to exercise their great authority and influence in various parts of the globe; stabilize arms races among the superpowers since once a credible deterrence capability is achieved it makes no sense to expand or augment its kill or overkill capability. A credible deterrence capability would therefore eliminate the need for wasteful expenditures on ever more exotic weapons and technologies; and reduce the likelihood of regional and limited wars since the stable strategic and political relations among the two superpowers were assumed to serve as a moderating and benign influence in several regions of the Third World.

One questionable aspect of nuclear deterrence is that while it works against the other superpower, it does not work very well, if at all, in deterring other, smaller countries from aggression. Stable nuclear deterrence seems actually to raise the incentives to initiate hostilities at the subnuclear level, in conventional and regional warfare. Stable nuclear deterrence creates a dangerous corollary: The more stable the strategic balance between the superpowers, the less stable and binding it appears to be among the nonnuclear countries, as well as others. And

conventional warfare in the regions could escalate into limited or even all-out nuclear warfare.

Arms control was also assumed to be benign and positive. Arms control negotiations and agreements were assumed to bring about: The reduction of defense budgets due to reduced arms development and procurement policies resulting from established numerical ceilings and ratios; the reduction and halting of nuclear proliferation; the slowing down of arms races and conventional arms transfers to the industrialized and Third World; and the achievement of an arms control dividend in the form of substantial savings that could be transferred to the nondefense sectors of the society.

And yet, arms control negotiations have produced little of real substance although they have resulted in several useful secondary achievements including the ABM Treaty, the Interim Agreement on Offensive Weapons, and the Vladivostok Agreement among others.

During the past decade of stable deterrence, détente, and arms control negotiations, we have observed an apparent paradox. The decade which witnessed the most stable and reasonable relations between the East and West, when very intensive diplomatic efforts were undertaken to harness the arms races and to create peaceful relations in various parts of the globe, was also a decade of the most intensive arms development, arms production, and arms deployment programs, and a decade of escalating arms sales in various incendiary parts of the globe. The weapons developed and deployed in the past decade are more deadly, more precise, and more costly than ever before.

While SALT negotiations achieved some secondary goals, there is a wide range of weapons that are not covered under the SALT agreements—mobile launchers with nuclear warheads with tactical and strategic ranges; reloading and cold-launch systems that critically reduce the meaning and utility of the SALT agreements on the numbers of silos and launch systems; the cruise missile development which is likely to greatly complicate the arms control calculus of the past decade; and weapons systems that fall into the so-called grey areas, since they can be counted among strategic systems although they are ostensibly of tactical nature.

Massive amounts of money are spent annually by both superpowers—in the $10 to $20 billion range—on research and development programs of new weapons and more effective military hardware. These create potential pressures to produce and deploy ever newer, better, more deadly and effective war technologies.

There is little evidence of the arms control "dividend," a reduction of defense budgets, a slowing down of defense expenditures, a reduction in the size of standing armies or of conventional arms production, or a reduction of proliferation pressures and possibilities.

What emerges from even this sketchy overview of the achievements and failings of a decade-long arms control policy, paralleled by a policy of détente and stable nuclear deterrence, is that while political leaders keep reassuring us that there policies are workable and successful, the world is becoming a more dangerous place—a place of proliferating arms and military technologies, of qualitative arms races and escalating defense expenditures, and of continued conflicts of interest in various regions of the globe that do not seem to submit to reason or to political control.

How can one explain this state of affairs, this specter of promises unfulfilled? At the root of this paradox of arms control lies a fundamental disparity of interests and policy objectives between the superpowers, as well as excessive and unrealistic expectations.

Ten years ago, when the SALT I Treaty was being considered in Washington, Senator Fulbright, then chairman of the Senate Committee on Foreign Relations, held hearings similar to the present ones. I was privileged then to testify before that committee. I would like to cite, if I may, part of that testimony, because I believe it still to be very applicable today and very relevant to my present remarks. At that time, a decade ago, I stated:

WHAT SALT WILL AND WILL NOT DO

SALT does not really hold out the promise of either halting the arms race, nor of enabling leaders to drastically curtail defense expenditures in the interest of the consumer. We ought to consider here what SALT promises to achieve and what it will likely fail to achieve:

What SALT will do:

SALT will stabilize and formalize the rules of the game of the now-equal superpowers, who have vested interests in maintaining a nuclear-strategic bipolarity.

SALT will stabilize the quantitative arms race, specifying the numbers of tolerable ratios, launchers, sites, et cetera.

SALT may create a useful psychological political climate for further negotiations.

What SALT will not do:

SALT is not disarmament, it does not promise "peace in our time."

SALT does not really stop the arms race, it merely moves it in a different direction, into a qualitative arms race of a subterranean nature, which may actually increase the number of deliverable warheads—warheads with a greater target precision and greater devastation potential.

SALT will likely increase allocations in the Soviet Union and the United States to the R&D sectors in order to keep abreast with technological developments in military hardware in order to remain vigilant and capable of balancing or outdistancing the adversary within the limitations of the treaty provisions.

SALT is not likely to change some important Soviet perceptions of new policy opportunities in the 1970s. For the international arena looks very promising indeed from Moscow: the Soviet Union is stronger militarily than ever before; the Soviet Union has extended its political and military influence into many parts of the world; the Soviet Government has even raised the standard of living of its citizens and introduced a modicum of relaxation in its international affairs.

It is argued here that Soviet interests in SALT are limited, instrumental and essentially political. They are limited to the extent that SALT does not imply any reduction in Soviet military capabilities or in their arms programs. SALT merely formalizes certain current and future strategic ratios between the Soviet Union and the United States.

They are instrumental to the extent that SALT serves other important Soviet objectives as a "perediska," a necessary breathing pause, in stabilizing one traditional area of confrontation, as the Soviet Union assumes new responsibilities and commitments in the Far East, Asia, and south of Russia.

They are essentially political to the extent that SALT formalizes superpower political equality and symbolically binds the United States to the Soviet Union while excluding China and others from this compact.

Another argument made here is that SALT does not significantly change the adversary relationship of the United States and the Soviet Union. Any expectations of dramatic departures in Soviet foreign policy are bound to be disappointed. If anything, one would expect a heightened Soviet foreign policy activism in areas of presumed vulnerability, opportunity, and low U.S. interest. Such policy activism is likely to proceed at a slow, uneventful pace, in an unobstructive, aggressive manner, in areas of strong Soviet interest. For example, the Middle East would appear to be such a target of opportunity and is likely to become an area of continuing Soviet penetration.

A further argument advanced here is that while American globalism and interventionism is waning, Soviet globalism and imperialism is gaining momentum.

The Soviet Union had been denied a global role by Western policies of containment and by U.S. strategic superiority. Having broken out of containment, and having finally achieved strategic parity, the Soviet military and political elites face an adversary who is assumed to be "fatigued" and moving into a neoisolationist position. Thus, Soviet elites find themselves in the possession of enormous power, a power that is looking for a purpose. And that purpose will be shaped by the resolve of their traditional adversary, by probes into vulnerable targets of opportunity, and by the internal politics in the Soviet Union.

I conclude my remarks today with the observation that the past record of United States-Soviet arms control negotiations is not encouraging. Both superpowers have, for various and diverse reasons, decided to seek their own security and the protection of their vital interests by means of a two-track policy—one track of negotiation and another concurrent track of military build-up and war preparation. The results of this dual-track policy of arms control and arms race can be seen today: vast amounts of scarce resources are deflected from economies and allocated to the least productive sector of the countries—the defense sector. About $2 trillion from each economy will be spent during the remainder of this decade, and none of these dollars brings us greater security, influence, or respect.

The future of arms control, of serious and substantial efforts to halt or even to reduce the senseless, out-of-control and wasteful military expenditures, will depend upon new approaches, and upon mutual recognition of the futility of past policies and assumptions. For as Santayana warned us: those who do not remember the past are doomed to repeat it.

Thank you.

Senator PRESSLER. I feel very strongly that our witnesses this morning have been the best prepared witnesses that I have heard in a hearing in Washington, D.C., or here. I don't agree with all the conclusions, but in terms of ability and the depth, your statement is certainly in that category and I thank you very much.

I have to leave for the airport shortly, but I do want to stay for the end of the hearing. So I'm going to yield to Senator Cranston, but I want to commend you on your fine statement and you have been part of the process, as you say, for 10 years from SALT I and we really appreciate your being here.

Dr. KOLKOWICZ. Thank you very much.

Senator CRANSTON. Thank you very much. Your testimony has been very helpful. I'm very impressed by those remarks you made before the Senate Foreign Relations 10 years ago and it isn't as often that predictions stand up as well as those you have made. I wish you had been wrong.

Dr. KOLKOWICZ. So do I.

Senator CRANSTON. You spoke mostly about the problems of past efforts and our failures up to now to make a real significant breakthrough in arms control efforts.

You close by saying that what will be accomplished will depend on newer approaches and mutual recognition of the futility of past policies and assumptions.

What new approaches should be undertaken that might lead to such a development?

Dr. KOLKOWICZ. I would suggest first of all, that we understood the differences and the fundamental asymmetry in Soviet and American objectives, values, and vital interests.

We often assume, and that includes decisionmakers in the business of arms control and foreign policy, that rational people, and the Soviets are assumed to be rational, understand the rules of the game for nuclear war and arms control the way we do.

One of the important things would be to try to understand who the Soviets really are and what is the nature of their domestic politics. Do they share our concerns, and fears, and do they share what we believe is a commonality of vital interests between the two superpowers?

Next, one would have to come to grips with the unpleasant fact that not every problem has a solution.

The Soviet Union, I believe, is at present in an expanding phase. They consider this decade and the next to be their decades in terms of targets of opportunity.

Therefore, I would suggest that we rethink the way we conduct negotiations with the Russians, and the assumptions and premises upon which these negotiations are rooted.

Our negotiations with the Soviet Union have been based primarily on the assumption that there is a golden mean somewhere. The Soviets don't want to be destroyed in a nuclear war and neither do we, as has been eloquently discussed this morning; therefore, there must be a common point where we can achieve negotiation, accommodation, and concessions.

I believe that, at the very least, this should be reexamined. I believe the Soviets do not share this fundamental belief in the possibility of accommodation and concessions.

If I may add one more point: If we take a look at the way American foreign and defense policy and Soviet foreign and defense policy interests are articulated, we can observe fundamental differences that are important for the people in the arms control business to understand.

The Soviet Union, as we have heard from the very beginning of negotiations, has sought to decouple parts of their defense and foreign policy objectives.

They are very reluctant to talk about arms control limitations on conventional forces and they are very reductant to link things. They like to deal only in separates and for very good reason, because the Soviet's primary interests are different than ours.

They are very comfortable negotiating nuclear arms control with us, comfortable even with some mutually agreeable ratios of nuclear weapons, because nuclear weapons are to a large extent politically inert. You cannot use them in Africa or the Middle East at the present, because they are very strategic weapons. Conventional weapons, on the other hand, do have political utility by virtue of not being very provocative, and the Soviets are very reluctant to enter meaningful negotiations to limit these weapons.

If I were to propose how to stabilize in the future our relationship with the Soviets on arms control, I would suggest the following: (1) to be quite clear what their objectives are; (2) to be quite clear what their methods are; and, (3) to not believe too much in their ceremonial ideological or political statements which argue that the Soviets are against nuclear war, are for total nuclear disarmament; and that the only reason they spend enormous amounts of their resources on arms is because of us.

Senator PRESSLER. We have to maintain order.

Dr. KOLKOWICZ. For the past 20 years or so, my work has been in the area of Soviet military and foreign policy, and I have written a number of things on these subjects. I don't claim any additional wisdom on this subject, but at least a great familiarity with the rhetoric, the objectives, and what I believe are the fundamental interests of various Soviet leaders.

Senator CRANSTON. Do you believe the Soviets who do not necessarily want instability, as we want stability, do share our concern about the consequences of nuclear war and do seek to avoid that?

Dr. KOLKOWICZ. Yes, they do. The Soviets pretty much agree with many of us that nuclear war, despite what people say, is not winnable, and that politically it makes very little sense. In other words, nuclear war is not comparable with the concept of the continuation of politics by other means.

But they do not at all reject other uses of force; and if I may reiterate one of the issues that I raised this morning was the either/or attitude by a number of my colleagues with regard to the problem of arms control, "either/or" meaning we are either to have harmonious peace or nuclear war and nuclear incineration.

I suggest this is too simplistic. There is a whole range of other possibilities that I would find most unpleasant, and they would still fall short of war.

In other words, the use of conventional forces and conventional means far below the nuclear threshold can be as dangerous to our social and political fabric—not as destructive but in some ways as devastating as a nuclear war.

For 40 years we have not had a nuclear war, but our society had been tormented and at times profoundly disturbed by conventional, little, dirty wars where nuclear weapons were not used.

I would suggest that in the discussion of arms control and Soviet-American relations, that element must be introduced. We ought to press the linkage which the Soviets resist, the linkage of conventional and nuclear forces.

Senator CRANSTON. What do you think has prevented nuclear war thus far since Hiroshima and Nagasaki?

Dr. KOLKOWICZ. First of all, simply because only two powers so far have obtained sufficient numbers of weapons usable in a nuclear war.

If more countries, possibly with less responsible leadership, obtain significant amounts of nuclear weapons, I would be much less sure.

The Soviets do not want nuclear war. I'm positive of that. The Soviets do not even want conventional wars. It was Lenin who cited Clausewitz, the great strategist for the last two centuries. In reading Clausewitz, Lenin, while he was still in Zurich waiting for the revolution, wrote on Causewitz's famous book *On War* that it was "brilliant, wonderful."

Clausewitz states that the conqueror always comes as a peacemaker. He wants as little trouble as possible. In other words, he wants the victim to surrender.

I would suggest that Soviet defense and foreign policy today is the kind that seeks as little trouble and as little disturbance as possible, but that at the same time seeks the expansion of their influence.

To answer your question, the Soviets do not want nuclear war. Of this I am strongly persuaded.

Senator CRANSTON. If you believe they seek as little trouble as possible and do not want direct confrontation, how do you explain their intervention with Soviet proxy troops, Cubans, Vietnamese, their involvement in Afghanistan and so forth when they know that those are going to cause a revulsion in this country and heighten the tensions and probably cause us to increase our military expenditures?

Dr. KOLKOWICZ. Senator Cranston, if we take a quick look at some episodes of similar Soviet naked aggression—in Czechoslovakia in 1968, after Afghanistan, right now in Poland—after the public and the leadership of the West have expressed their repugnance, business tends to go back "as usual."

The Soviets brutally squelched the Czech counter-revolution in 1968, and soon after that we started arms control negotiations, SALT negotiations, with the Soviets.

The Soviets have learned that when our vital interests are not involved, we will scream a lot and then we will resolve to impose symbolic sanctions—either yellow ribbons as in the Iranian crisis, blue ribbons, and not sending athletes to the Olympics as in the Afghanistan crisis, and right now, with black ribbons and by lighting candles in our windows in response to the Polish crisis. They understand this. Our sanctions are not the kind that go to the jugular; they so far have been symbolic.

The Soviets look out for their interests in Afghanistan and Poland, and will continue to explore in Africa and the Middle East precisely in a way they find nonprovocative. To use Cubans or East Germans or North Koreans is not provocative. You do not have Soviet troops marching under the flag, as we have projected, in remote parts of the world.

The Soviets consider this a tolerable and tenable sort of unfolding of their historical mission, which is to spread socialism throughout the world.

Senator CRANSTON. While they're not concerned about candles in the window or yellow or black ribbons, do you feel they are concerned about the very heavy increase in defense spending?

Dr. KOLKOWICZ. Very much. I think this is the most effective way of sending the message to the Soviet Union. I myself was in Moscow around the time you were there, and I discussed this with my opposite members at various institutes. This was their primary concern, and this is a serious concern. We talked a great deal about politics, and they do not understand why we are doing this. After all, they will say that what they are doing is simply catching up with us. The peril might be that the Soviets may believe "no more Cubas" just as we believe "no more Vietnams." I'm referring to the Cuban missile crisis where we humiliated them. The no-more-Cuba syndrome is very powerful, particularly in the military/defense circles of the Soviet Union. They will not again blink first if confronted by us.

Senator CRANSTON. Are there any other steps that you would recommend the United States take to indicate our objections to Soviet actions in Afghanistan, Poland, and Angola?

Dr. KOLKOWICZ. I would agree with my colleague, Dr. Digby, that what we really need to do is to redirect the enormous amount of money going into nuclear weapons, which have marginal use, into conventional forces.

I myself share your own revulsion at putting money into military instruments, but the problem is that the Soviets continue to modernize

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their conventional forces and the various associated techniques and capabilities.

I believe we ought to consider this because if we do not do so, Senator Cranston, our credibility in terms of being able to counterpose a significant, nonnuclear deterrent to Soviet encroachment and expansionism, will be marginal. No one will use nuclear weapons if the Soviets continue to expand in the Middle East and North Africa. We will not voluntarily bomb Leningrad if they continue to use only conventional forces and proxies.

Senator PRESSLER. I want to say a word before I depart.

I want to thank the various witnesses and Senator Cranston.

I have to start the process of getting to the airport, I want to thank my colleagues, Senator Cranston, and his staff and my staff for the excellent work they have done in setting up these hearings. They are an experiment in formulating this committee's policy, and I think that they have been a successful experiment.

Senator CRANSTON. Thank you, Larry.

I want to thank Senator Pressler and I want to let you know that on Monday we're going to be in the snow and ice of South Dakota having a further hearing.

I have a few more questions I would like to ask and then we will complete this hearing.

Do you concur in the view that has been expressed by a number of witnesses that the odds are that a limited nuclear war would not remain limited but would be apt to expand upward?

Dr. KOLKOWICZ. Yes.

Senator CRANSTON. Do you also believe that it's rather likely that if a major conventional war began between ourselves and the Soviets that it would be apt to move into a nuclear nature?

Dr. KOLKOWICZ. If the term "major" is included, I would agree that it would be next to impossible to control it below the nuclear threshold.

Senator CRANSTON. Do you see any buildup that may occur in our conventional forces as basically something we would hope to serve as a deterrent similar in the hope that the nuclear weapons would serve as deterrent?

Dr. KOLKOWICZ. Yes; I firmly believe that.

Senator CRANSTON. Do you share the view expressed by a number of witnesses that despite any civil defense program, an all-out nuclear exchange would be entirely devastating?

Dr. KOLKOWICZ. I certainly agree with that.

Senator CRANSTON. You have been a very helpful witness and I appreciate it very much.

Dr. KOLKOWICZ. Thank you.

Senator CRANSTON. I want to go through one formality and place in the appendix of this hearing Robert Scheer's L.A. Times story on civil defense, today's L.A. Times editorial on the same subject and Sunday's San Jose Mercury Herald editorial on this same topic.

I think we've had a truly remarkable hearing and I thank all of you for your attendance. I thank the witnesses. I thank each of you for your interest and I urge you to do what you can on this most momentous of all subjects. I thank you very much.

[Whereupon, at 1:15 p.m., the subcommittee adjourned, to reconvene at 1 p.m., January 25, 1982, in Sioux Falls, S. Dak.]

THE FUTURE OF ARMS CONTROL

MONDAY, JANUARY 25, 1982

UNITED STATES SENATE,
SUBCOMMITTEE ON ARMS CONTROL, OCEANS,
INTERNATIONAL OPERATIONS AND ENVIRONMENT OF THE
COMMITTEE ON FOREIGN RELATIONS,
Sioux Falls, S. Dak.

The subcommittee met, pursuant to notice, at 1 p.m., in the Morrison Commons Lounge, Augustana College, Sioux Falls, S. Dak., Hon. Larry Pressler (chairman of the subcommittee) presiding.

Present: Senators Pressler and Cranston.

Senator PRESSLER. I will call this meeting to order and thank you for coming. We have such a large crowd; there are hardly seats for all. Can we get everyone in? I want to accommodate everyone standing on the side if we possibly could. There is room back here. Senator Cranston's plane is delayed, but it is due to land at about 1:30. So, if he can get here, we will just blend him in, so to speak. Let me first of all thank Augustana College and all of you for participating here today. We have some very good witnesses, and I am going to start the hearing. We request anybody here who wants to make a statement who is not a scheduled witness to write it out. Anybody can get their opinion on record who wishes to.

We had an informal meeting this morning at Kirk's Cafe that was questions and answers, but this an official hearing of a Senate subcommittee where we hear testimony, but we can submit written testimony later. So, if people have things they wish to say, I have asked that there be pads of paper available to people who have a specific question. Let me also say this is a subject that causes some to ask why hold a hearing on it, but I think it is good to heighten public awareness of the dilemma we are in—the spending, the size of the deficit, what this is costing all the nations of the world in terms of defense.

I recently returned from Poland where I saw first hand what happens when a repressive group gets military power over another group. So, we must be realistic. Let me say that every taxpayer and every citizen is and should be concerned about this subject.

I have also said frequently that I am hopeful that we will have a breakthrough in talks and negotiations on arms control, and that I am very pleased with the plan submitted by President Reagan last fall which calls for a major reduction in the building of nuclear arms as part of an agreement with the Russians. Talks are now underway. Also, I know it surprises some people, but there are a lot of knowledgeable people who feel that President Reagan may be the President to achieve a breakthrough in arms control, because just as Richard Nixon could go to China because he was trusted by the more conservative groups in the country, so Ronald Reagan can enter into talks with

Brezhnev and others in this area. Let me also say we are on a very bipartisan basis here today. We invited the Presidents of both the young Democrats and young Republicans to lunch. I want to thank the organization that sponsored that luncheon.

South Dakota contributes a great deal to our national defense, we want to do our share. We have some of the people who are most familiar with the effort, and indeed our lead witness is General Justin Burger who recently retired after a career of over 40 years in the Air Force. We are very lucky. I think in this whole area we need to listen to one another. That is the purpose of Senate hearings.

I do not want to belabor the obvious in discussing the overall importance of arms control. It should be enough to mention only the impact on world peace that a reduction in armaments can make. Probably all of us are generally familiar with the arms races that preceded World War I and World War II and the catastrophe those wars brought to civilization. We also know how much more deadly and destructive are the nuclear armaments and contemporary arsenals, and that the destruction of the two preceding wars would be dwarfed by nuclear capacities.

I think it is good to hold a field hearing on something of this sort to get people's interest and bring them up to date. Let me say I also am suffering from a cold. I was in Kadoka last night and spoke to a group and had a listening meeting and my voice ran out. So, if anyone wants an argument, you won't get it from me today because I can't respond too well. I should mention two such agreements that have contributed to our national security. The Antiballistic Missile Treaty of 1972 and the Treaty Banning Nuclear Tests in the Atmosphere in 1963. But we must take care not to conclude hasty agreements that do not provide for adequate verification. For example ABC–TV recently reported a belief that the Russians are violating the Biological Weapons Convention in Afghanistan and Cambodia and in other areas.

There is certainly a great deal of interest in arms control. I just this morning received a totally unsolicited memo from the City Council of Hot Springs, enclosing a copy of the City of Hot Springs, S. Dak., Common Council resolution favoring a freeze by all countries on the production, testing and deployment of nuclear weapons while the leaders negotiate worldwide nuclear disarmament. It is addressed to all our representatives. I will insert it in the record.

[The information referred to above follows:]

CITY OF HOT SPRINGS,
Hot Springs, S. Dak., January 15, 1982.

From: Office of Mayor.

S..D. Representative Clint Roberts, House of Representatives, Washington, D.C.; S.D. Representative Tom Daschle, House of Representatives, Washington, D.C.; S.D. Senator Larry Pressler, U.S. Senate, Washington, D.C.; S.D. Senator James Abdnor, U.S. Senate, Washington, D.C.

Governor Bill Janklow, State Capitol, Pierre, S.D.; Senator Jack Manke, State Capitol, Pierre, S.D.; Representative Violet Biever, State Capitol, Pierre, S.D.; Representative Joe Rickenbach, State Capitol, Pierre, S.D.

Please find enclosed a copy of the City of Hot Springs Common Council Resolution No. 1981–34, favoring a freeze by all countries on the production, testing and deployment of nuclear weapons while the leaders negotiate for world-wide nuclear disarmament.

I appreciate any work you can do in furtherance of this ideal.

Sincerely,

DONALD J. DEVRIES,
Mayor.

RESOLUTION No. 1981-34

Be it resolved by the Common Council of the City of Hot Springs, South Dakota, that the City of Hot Springs is in favor of a freeze by all countries on the production, testing and deployment of nuclear weapons while the leaders negotiate for World-Wide Nuclear Disarmament.

Dated this 21st day of December, 1981.

By D. J. DEVRIES,
Mayor.

Attest: Cheryl Gunwall, City Finance Officer (SEAL).

The point is, a balance must be found in view of some of the real threats that we face from other societies.

It was my feeling that we should hear the views of agriculture from Lee Swenson and others who were going to be here today, but have had to cancel because of road conditions. We have representatives from organized labor, from business, and from religious organizations and public interest groups as well as our military experts. I am very proud of South Dakota's contribution to our national defense, and I am very proud of the people who serve in it. I served in the military myself for 2 years, and have done a great deal of thinking in this area. With that in mind, we will start hearing witnesses, each of whom will be limited to 10 minutes. We will insert the balance of their statement in the record.

I know that we tried to have every group represented that expressed an interest in this subject, but time constraints prevented that, but I encourage those who cannot be heard to submit written comments. There really aren't two sides let's say. I think everybody whom you talk to would be in favor of a reduction in arms, and everybody whom you talk to would be in favor of a limitation. The question is can we arrive at an agreement that we can believe and that is verifiable.

I thought first I would call on Col. Justin Berger who has a special place in South Dakota history. He has retired as of December 31 with more than 39 years of service, and I asked him if he would describe some of the efforts in South Dakota and give any philosophy he has. He is one of our most distinguished citizens and both he and his wife have served on my Academy Selection Committees over the years at different times, and I think the world of Justin as we all do. I would first call on you Justin, and we will then go to Al Schock.

We are going to try to conclude the formal part of this hearing by 3:30, in part because I have to be on an airplane back to Washington. Incidentally, there are no votes in the Senate today. Someone asked me how can you justify holding a hearing when the Senate is coming into session. It is a pro forma session. We are going to hear the President tomorrow night at 8 o'clock, and I urge all of you to listen to the President, and then we will start struggling with all the different issues that face us. So, with that, I will call on Justin Berger to make his opening statement.

STATEMENT OF BRIG. GEN. JUSTIN L. BERGER, SIOUX FALLS, S. DAK.

General BERGER. Thank you, Senator, for the kind words. I am afraid you are too gracious. I would like to say that it doesn't go without notice of all the high powered witnesses that you have had in Washington on this subject. I am pleased that you would come to

South Dakota and get a reflection of some of the feelings out here, and I would like to express mine, as a person being controlled or influenced as a result of what goes on as far as agreement is concerned.

Mr. Chairman, I thank you for the honor to appear before your committee, I applaud you for your consideration of U.S. foreign policy, arms control policy, and defense policy as a package. There is no question that they are interrelated and should be considered as a unit to be effective. As a former commander of an Air Guard unit, I would like to comment on arms control and my concern for U.S. defense posture. As you know, South Dakota supports two legs of the Triad. At Ellsworth Air Force Base, the manned bomber, and the ICBM. In addition the State furnishes many priority units, Guard units that make up a significant portion of this Nation's firstline forces, both Army and Air. My concern for those units is twofold. One, to be ready and able to do the job required for our Nation in a most professional manner; and two, that they can survive and return as a viable force.

The air unit out here has firstline equipment with highly experienced and highly qualified personnel. To remain a first-class fighting unit, material shortages must be filled and equipment must be continually modernized. The Army units in the State are filled with highly experienced and highly trained personnel, and have achieved a high state of readiness with training equipment. The concern of commanders of those units is whether or not the units, will be adequately supplied with proper equipment to be able to accomplish their assigned mission once they arrive in a war zone. To be sure, planning must insure that the Guard and Reserve units that are committed to U.S. firstline defense forces have the equipment necessary to do the job.

Civil defense is an integral part of war plans, and in South Dakota that responsibility lies with the State department of military affairs. Civil defense in the United States can handle natural disasters, but is unable to perform a wartime function. The tragedy of our ill preparedness in this area is not only the suffering that the civilian population must endure, but it could have a definite bearing on any result of a conflict. Every peace-loving person in the world would love to see a halt to arms production, and specially nuclear weapons. In view of the many world tensions, how do we get there? In the past, some American leaders have suggested that our overwhelming military strength, specially in the nuclear area, intimidated the Soviets and has forced them to be a hostile state and to be wary of U.S. objectives.

After World War II, the U.S. military-industrial complex was unchallenged. The United States was the only country with a nuclear weapon and a proven authority to deliver it any place in the world. Had land expansion been our desire, that certainly would have been the time to do it. Instead, we dismantled our capability and shared our wealth with the enemy to help rebuild their country and their economy. After the Cuban crisis, the United States stood still in the arms program for many years and unilaterally disarmed ourselves in several areas. We negotiated and signed SALT I and allowed the Soviets to gain equal military strength. Much to the surprise of the free world, the Soviets engaged in their own arms race that modernized and enlarged all areas of their military posture from civil defense, research and development, the Army, the Navy and Air Force, and their chemical, biological and nuclear weapons to a far greater

level of accomplishment than anyone in the free world could ever imagine. They have now the most massive and modern war machine that the free world has ever known.

Why would they spend so much of their GNP at such great sacrifice of their citizens to develop such a huge military capability? Maybe we should look at their record over the last 50 years for what it is and acknowledge they do, in fact, seek world domination. It seems obvious that man is not going to live in peace, and that the world is going to have military programs. If we are going to live with weapons, the next best thing is to be sure that we don't have to use them. U.S. policy of deterrent has proven to be a very successful method to maintain peace in a world of tension. It is expensive but not as expensive or catastrophic as war, and it has provided the longest period of peace in Europe during this century. Peace and freedom for the free world rely on it.

Today we still have the weapons that were superior only a decade and a half ago, but the modern technology has neutralized those weapons or reduced the abilities of the weapons to be effective. Technology has the ability to produce new, exotic weapons, and also to render yesterday's weapons obsolete. It is because of our failure to update our forces during the last 15 years that we are faced with a question of our ability to deter in the nuclear, conventional, and chemical area. The numerical superiority that Russia enjoys over most of our weapons systems, and the fact that the Soviet weapons are usually three or four newer generations of weapons than those employed by the United States, makes the risk of winning a war too great when it's our freedom that is at stake. Our deficiencies in nuclear and conventional systems are a matter of public record. Our deficiencies in the chemical environment may not be so well known, and they are probably a greater threat to the free world than the nuclear threat. There is a serious question as to our ability to excel in either a conventional or chemical war. If we cannot, the United States has two options. One to surrender and, two, to escalate to nuclear war. Neither option is an acceptable choice.

An arms agreement seems to be the only way to go so long as the arms agreement will, in fact, contribute to peace. To enter into an agreement with the Soviets, we must understand they function under a different code of ethics and morals than the United States. Their philosophy is any means to achieve the end for the mother country is proper—that may explain why they violate so many treaties. We should also understand that they have subverted their language. A word that has one meaning to us may have a completely different meaning to them. As an example, détente to us means an easing of tensions, status quo, but to the Soviets it means an opportunity for them to push and take as much as possible short of causing war.

Verification of an arms agreement is no problem for the Soviets. They have the run of our country, we have a free press, and we have offered them onsite inspections. The reverse is true for the United States. Verification is a difficult problem. An effective verification is a difficult problem. An effective verification system on both sides is mandatory, in view of the power and capability of modern weapons and the threat of a technological breakthrough. America's best chance for peace is through strength and deterrence. If an enemy

perceives us to be strong enough to cause them more destruction than they are willing to accept, should they gamble on starting a war, and they perceive that we are willing to us that strength to assure our freedom and that of allies, they will let us live in peace. Perhaps then we would have the opportunity to negotiate a meaningful arms limitation agreement. Thank you.

Senator PRESSLER. Thank you very much. You mentioned that we do have what you might call high-powered witnesses in Washintgon, but hearing from the grassroots is also important in this area as in other areas. In your statement you referred to the problem we have regarding Soviet philosophy, and I saw it firsthand in Poland in terms of what people will do if they have power over someone else. I think that some of our finest generals such as yourself are in favor of going forward with an arms control agreement if we could possibly do so. The President has proposed a major arms reduction plan which is now being discussed in Geneva. I don't know if you have any comments about that, or about the South Dakota contribution to this overall area.

General BERGER. The President's five-point proposal helps fill the voids of the problems that we have accumulated for the last 15 years, and what he is trying to do is put us in a position where we won't be blackmailed or that the President would be put in a position where he really has no alternative. I guess my thoughts are that technology is going to give some terrible weapons to a lot of different people. I would rather see those weapons in our hands than I would in the hands of someone who threatens the peace of the world. So I agree with the President's position.

Senator PRESSLER. We are just getting started on the space war lasers and killer satellites. What is your view of that whole developing war, the war in space?

General BERGER. I think we camouflage it a little and say it is NASA, a civilian agency. What in reality is happening is putting technology up there with the capability to promote civilian activities, but also as a military achievement. The Soviets have the capability of putting weapons up there and being able to launch them in less time than it takes an ICBM to get to the United States. It is certainly an area that if we have the ability to control, to seek an agreement that would be verifiable. However, verification of a space program would be very difficult. We need to try and influence the Soviets in this area also.

Senator PRESSLER. General Berger, I thank you very much for appearing. I shall next call on Mr. Al Schock. Al has been associated with Nordica International for many years and currently serves as a civilian adviser to the U.S. Army, and has been one of the leading citizens in our State, is and has been, and I know firsthand that our Vice President, George Bush, thinks a great deal of Al. He told me so recently. So, Al, we look forward to hearing from you.

STATEMENT OF ALVIN SCHOCK, SIOUX FALLS, S. DAK.

Mr. SCHOCK. Thank you, Senator. I am happy to hear that about Vice President Bush. I spent a lot of time trying to get him elected President. It is a pleasure to be here and represent not only myself, but I hope my family and grandchildren and also speak as a civilian aide to the Secretary of the Army. George Washington stated that a nation that desires peace must at all times be ready for war. I fought

in World War II in a very vicious battle in St. Lo, France. Many of my buddies were killed or wounded. In fact 69 of my buddies out of 186 men and 6 officers were killed or wounded. I personally spent a year recuperating in an Army hospital. I can attest to the fact that war is hell. Some of you have been there so you know.

There can be nothing more unthinkable to the civilized mind than a confrontation between nations that would lead to the unleashing of the nuclear weapons arsenal. It is a fallacy to think that nuclear war can be won. This is why a large segment of the world society has put out a clarion call for the complete destruction of all nuclear weapons, a moratorium on their additional deployment, and a complete ban on building more. As all assembled here know, President Reagan, in a most magnificent gesture toward nuclear disarmament, has offered to cancel deployment of Pershing II's and ground-launched cruise missiles in Europe provided the Soviet Union dismantles its deadly SS4's, 5's, and 20's. If Russia were to accept this proposal, the current Geneva disarmament talks could continue on a hopeful note.

However, though this disarmament is highly desirable, this is not the time for one-sided negotiations for the U.S.A. It is a well-known fact that the Russians in recent years have massively built up their military might. Current military strength is vastly unbalanced in favor of the Soviet Union.

In my estimation, the following are prerequisites for conducting meaningful arms reduction negotiations. First, marshal law imposed by the Soviets in Poland must be lifted, and you, Senator, saw first hand how oppressive the situation is there. Second, Russia must pull out of Afghanistan. Third, the Soviets must renounce the use of chemicals and yellow rain toxins and admit they have violated the 1972 treaty that bans the use of these biological weapons. Four, America must be allowed to rebuild its Armed Forces to near equivalence to the strength of the Soviets.

There is no equivalence now. The Russians have 55,000 tanks. We have an estimated 10,000 tanks. In every other category except helicopters the Soviets outnumber the United States 4 to 1. It is highly doubtful that the NATO countries could defend themselves if the Russians were to attack with conventional weapons. Only the ocean can give this Nation comfort should a conventional war break out.

It certainly has not gone unnoticed that after all past arms reduction agreements were negotiated, the United States was left militarily weaker. Russia has not lived up to past agreements, and probably never fully intended to. Witness, for example, their deployment of huge numbers of missile launching hardware in Eastern Europe—way beyond what would be required for their maximum defensive needs.

It would seem to me that before substantive agreements can be reached in eliminating nuclear arms and a reduction in conventional armament, there must be agreement on the verification apparatus to be used by the agreeing nations. No corporate venture ever succeeds where the accounting or auditing is not done or done haphazardly. Detection of cheating must be central to whatever disarmament treaties are negotiated. Military might and philosophy of and by itself will never assure that the nations of the world will live peaceably together or in peace for long periods of time. More is required. As past

chairman of the Board of Governors of Lions International, and a past international director, I have often spoken about the brotherhood of man and the necessity of striving toward reaching the goal expressed in Isiah, chapter 2:14.

> And they shall beat their swords into plow shares, and their spears into pruning hooks—nation shall not lift up sword against nation, neither shall they learn war any more.

During the Vietnam war I wrote a poem—a copy is attached, which is entitled "Blessed Are the Peace Makers." I will not read it at this time. I support and encourage the establishment of learning centers by the world's nations to study alternatives to war for settling disputes. The vistas of opportunity opening up in outer space and oceanics offer much for the world's people to work together for the benefit of all. In our country, I would envision a learning center for war alternatives established along the lines of the American Enterprise Institute and the Brookings Institution. Both of these institutions have rendered great service to the Nation. Both are funded by private and perhaps even governmental resources.

The late Gen. Omar Bradley, a World War II hero, former professor of military science at South Dakota State University, and former U.S. Chief of Staff stated:

> We have become a nation of nuclear giants and ethical infants. We know more about war then we do about peace and more about killing than we do about living.

Living is what life is all about. Nations cannot fail when they promote living vis-a-vis killing as in war. Disarmament talks may be fraught with danger; they may be difficult; progress may be unbearably slow, but let us all recognize the alternative.

Senator PRESSLER. Al, I thank you very much. When you mention the Brookings Institution and the American Enterprise Institute, what do you envisage here? What about the bill for an Academy of Peace?

Mr. SCHOCK. I would envision something where you would have a great opportunity for a lot of public input, public discussion, and invite other peoples in the world to come and participate. I don't know about that bill, but I understand there are possibly 50 cosponsors for that bill.

Senator PRESSLER. Yes; I am one of the cosponsors of that particular bill. What are your duties as civilian adviser to the U.S. Army?

Mr. SCHOCK. To interpret to the civilian population the problems and needs of the Army and vice versa. I accepted the job somewhat reluctantly. It is a 2-year appointment. It is unpaid, I would like to put that out, at no taxpayers' expense, except telling myself I would not be brainwashed or indoctrinated. I have been very objective. I have been traveling around to various Army bases to see what our volunteer Army is doing. I have been greatly impressed by what the young people are doing to serve our Nation. I am also concerned that we do the right thing within our Nation's capabilities to defend itself.

Senator PRESSLER. I think it is important our military forces are close to our people, and in countries such as Poland or Russia you have a professional army that is totally separate from the people, and it is good to have someone such as yourself interpreting and speaking and listening to what is going on. Al, I thank you very much.

I will insert your poem in the record.
[The material referred to follows:]

BLESSED ARE THE PEACE MAKERS

Young soldier when you wrote
"The sun just came up and the first golden spears came piercing the sky like a child's flowing tears."
Were you thinking of beauty, loved ones in far-away places, and peace, or were your thoughts in the depths of hell when you observed:
"The wounded are moaning,
The dead make no sound,
The story of last night
Is soaking the ground".
Oh, Prince of Peace, we stand far back, safe. We are civilians, civilized?
On Thy birthday in Thy name we send messages of peace and good will to all men.
We express our love of life, all life, and our concern for our fellowman who ride with us on this space ship Earth out into infinity and your eternity.
But it is not yet a pleasant journey for war rages on in the hearts of fellow travelers and on bloodied far-off fields where our offspring are ordered to battle against each other, oft as brothers.
Is this for fun, sport for leaders unbending, for goals that must be achieved to save face, national might, soldierly image?
Or are we locked in mortal combat as the Davids of old against the Goliaths that would destroy first us, then Thee?
If this be so then we accept there are no alternatives and we will sacrifice our sons as you sacrificed Your own.
But we will seek to search for peace in Thy Son's name for You have told us blessed are the peace makers for they shall be called the children of God.—Schock (1971)

Senator PRESSLER. Is Jack Rentschler here? I do want people to be as comfortable as possible. I guess we should have held it in the auditorium. Jack, we thank you for being here. I don't know if you had a chance to listen to some of the earlier witnesses, but we have had some very fine ones. Let me say that Jack is one of our leading businessmen, and he has just become the president of the Home Savings Association for this region. He is a graduate of Indiana State College, but he has been very thoughtful and active in community affairs here for some time. Jack, we look forward to hearing from you.

STATEMENT OF JACK G. RENTSCHLER, SIOUX FALLS, S. DAK.

Mr. RENTSCHLER. Senator Pressler, it is very nice to be here, I apologize to Tom. I hope I didn't intrude upon his time. You mentioned my name and I was out in the hallway and by the time I got in here I was running a little late. I do appreciate the opportunity. I obviously am a layman in regard to arms control and so these are the thoughts that I would present here today. This really doesn't pertain to arms control, Senator, but I would like to express my appreciation to you for your constantly pointing out to Congress the need for our allies to pay their proportionate share of the cost of the defense of the free world countries, and I hope you will continue to pursue this goal.

I would also compliment you for your speech given on the Senate floor on December 15, 1981, in which you pointed out the work going on in the Reagan administration in an effort to achieve true arms reduction between ourselves and the Soviet Union. Certainly effective arms control would give our people a greater sense of security, and would also permit ourselves to spend moneys toward improving our country

rather than on an arms buildup program. I would also mention that the speech which the President gave on November 18, 1981, in Washington, D.C., to the National Press Club concerning his proposal to the Russians for arms reduction was truly a classic. It was simply worded, it was explicit in what the United States and its NATO Allies would do, and explicit in what was expected of the Russians in regard to Europe in both conventional and nonconventional weapons including manpower. I think the Russians' intentions can best be gaged by their willingness to work on the four clear proposals made to them in President Reagan's speech in December.

Now, as a layman in regard to arms control, here is how I feel at this time. I feel we are far behind the Russians in military strength and they know it. This is why they felt free to take over Afghanistan, and why they felt free to cause the Polish Government to begin the enslavement of the Polish people. In regard to the Polish situation, I do believe the Polish people tried to create too many changes too quickly, and recklessly forced the Communist's hand, and I would hope you, as a member of the Foreign Relations Committee in the Senate, might cause other countries who cherish more freedom than they have to maybe move more slowly in that direction than they would like at times and maybe make more headway in the long run toward achieving their goals.

I do not believe the Russians will ever want to give up what they believe to be their military superiority; and, therefore, it appears to me we will have to continue, for at least the immediate future, a rapid escalation of military strength. We must remember the Russians have little to offer their so-called allies other than their military strength. I do feel strongly that we should pursue negotiations with the Russians in an effort to slow the pace of arms expenditures and arms build up, but I am hopeful we can close the gap that apparently exists between ourselves and the Russians in regard to military strength. With both countries aware of the terrible destruction of nuclear weapons, it does not appear to me that we will have a nuclear conflict, and particularly if we do draw closer to their military strength.

Based on this, it appears to me that our ground troops need to be increased in numbers as well as quality, and such conventional weapons as tanks need to be increased in numbers and made of high quality. I worry that we may not get the quality of the products that we deserve to get from the manufacturers of military equipment. It also appears to me that we should give some thought to a mandatory military training program for young men of a duration to exceed a year. We would then have a force of people capable of quickly mastering new and sophisticated weapons used for conventional warfare. With the shortage of funds facing many who would like to go to college or technical training schools today, it is possible we could offer a dollar incentive upon successful completion of a short military training program for their use for college purposes.

As a matter of interest, I was fortunate in the spring of 1973 to have the opportunity to witness from a very short distance the firing of our first atomic shell from a piece of military. This took place in the desert of Nevada. Very soon after the blast we were able to see the devastation created by this small atomic explosion as we walked through the

area. I have given some thought to going to the VA hospital here to see if that has anything to do with my hair getting gray at this age.

In conclusion, I did not have confidence in the negotiators of the latest proposed SALT Treaty. I do have confidence in President Reagan and the present Senate and as a citizen would welcome serious arms control talks with the Russians. I again suggest that these talks use the four proposals made by the President in his November 18 speech as a guide line for determining if we are really getting equitable treatment in any agreement we might negotiate with the Russians. Thank you for permitting me to take this presentation today.

Senator PRESSLER. Thank you for those comments and those views. Let me say one thing. I should say that despite changes in our military situation over the last 35 years and despite changes in administrations, our basic policies have remained pretty much the same. Many people suggest, even people who may disagree with the President in other areas, that he might be in a unique position to negotiate an arms control agreement just as Richard Nixon could go to China more freely than someone who hadn't been very anti-Communist. Of course it depends on the Russians too. Let me ask you another question. How does a Senator insist on the quality of equipment, and you mentioned that, at the Pentagon without being interpreted as antistrong national defense? I have raised questions about many of our weapon systems, if they really work, and if we are being told the truth by the arms lobby? Do you as a citizen have a concern in this area?

Mr. RENTSCHLER. I really do have a concern because of the massive amounts of moneys that are spent on arms, and maybe there is a system in place that puts a more neutral person as a check and balance between the people in Government, the Pentagon, for example, that develops contracts with manufacturers, but if there isn't, then I wish something could be done to put a system in affect that would act as a check between those two who really become one and the same as they, their relationship really becomes one and the same. We are aware of this from so many military people going to work for many of the people that build our arms, and maybe we get more than I think we do for our money, but we are just besieged by literally not millions but billions of dollars of overruns with contracts with people that supply us weapons, and it just doesn't seem like that really is good business on behalf of our Government.

Senator PRESSLER. I think you are right. The current Secretary of the Navy, John Lehman, whom I have known for a number of years, has been trying to look into the cost overruns on military equipment. Of course, sometimes inflation or unforseen events cause them, but Congress has almost been approving them without question, and it is an area where we need to do some hard analysis. I thank you very much, Jack, for those forceful statements. You are a former president of our State chamber of commerce and of the Sioux Falls Chamber. I know you have served on more committees than I want to list here, but I think your views are very representative of our people, and I thank you very much.

Mr. RENTSCHLER. Thank you, Senator Pressler.

Senator PRESSLER. Let me next call on Leroy Mutschelknaus who is a professional barber associated with the organized labor movement in

South Dakota. Let me say in Humbolt our barber, who was Con Merrigan at the time, knew what people are thinking better than anybody else. One of the things we want to do in these hearings is invite people from different walks of life to make a comment, and we appreciate your taking the time to come. Who is minding the shop?

STATEMENT OF LeROY MUTSCHELKNAUS, SIOUX FALLS, S. DAK.

Mr. MUTSCHELKNAUS. The shop is not open today, we bum on Monday. Senator, I want to thank you for asking for the opinion of organized labor, we appreciate that. The comments I am about to make are my own and yet they are to reflect the opinions of my group. We held a meeting, and decided that we would ask your committee to represent us. I guess the first question that came up was who wants disarmament? Well, I think when you look around this room today it goes without saying that 99⁹⁄₁₀ percent of the United States or the world are crying for disarmament, we all want it. So, further in our discussions we decided not having the intelligence and the political data that it takes to make say a sound judgment or make recommendations to you or your committee as to what you should do in negotiating the agreement, we decided maybe it was best that you people, the hired experts, will take the authority to go ahead and make the decisions or make the agreements that you see fit.

We only had two concerns that should you go ahead and make an agreement, that No. 1, that we not disarm unilaterally. Not just the United States disarm and allow everybody else to keep building, let's not go it alone. We are dealing with a devious enemy, and I think we have 60 years of history to look back on to see how good their promises are. So, let's not go on promises. The other is that we demand, I am not saying ask, we demand an onsite inspection, a good guarantee program that should we disarm that they are doing it too. Here again, let's not take their word for it. Let's go up there and say we want to come in and we want to walk through your factories and see what you are building, we want to see what you are doing, we want to inspect your arms, we want to know if you are destroying your missiles. That, Senator, is all we ask. I appreciate the privilege of being here.

Senator PRESSLER. I appreciate your coming and I appreciate the organized labor movement in having a meeting and considering it so seriously. I remember when the Kennedy Center was opened in Washington, D.C., some years ago, they had the big gala, had all the builders, the contractors, the Senators, Congressmen, but didn't have any representatives of organized labor, the people who really built it. I saw on TV someplace in San Francisco something that was built. The first night they dedicated it to the people who actually had done the work on it and built it. I think the contrast is there, but I think it is really important.

Mr. MUTSCHELKNAUS. We appreciate being asked.

Senator PRESSLER. Let me ask you as taxpayer and as a citizen, from what you hear in your daily work, do people want us to compromise national security?

Mr. MUTSCHELKNAUS. Absolutely, we can't afford to, we can't afford to take chances, we can't play games with national security.

Senator PRESSLER. Do you think it would be a good thing for Brezhnev and Reagan to get together later this year to see if they could reach some kind of agreement?

Mr. MUTSCHELKNAUS. I think it is always good to get together and talk, and attempt to reach an agreement.

Senator PRESSLER. We thank you.

Mr. MUTSCHELKNAUS. Excuse me, the reason we insist so strongly on onsite inspection is just the fact these people do not want inspection would almost indicate to me they plan to cheat.

Senator PRESSLER. The difficulty we have sometimes with these things is in our society everything is published and we don't have an official secrets act. Indeed that is the beauty of our society, that we have freedom of the press, which is quite different from other societies. This is a dilemma. We thank you Leroy, we are lucky to have you.

Mr. MUTSCHELKNAUS. Thank you.

Senator PRESSLER. I shall call the other witnesses in the order they are listed. I am going to call on Bishop Norman Eitrheim who is the South Dakota bishop of the American Lutheran Church. We are very lucky to have him. Bishop Eitrheim, I talked to you earlier today. Let me say the quality of witnesses who agreed to appear is extraordinary, and, Norman, we really appreciate your taking time to be here.

STATEMENT OF BISHOP NORMAN D. EITRHEIM, SIOUX FALLS, S. DAK.

Bishop EITRHEIM. Senator Pressler, I welcome this opportunity to comment. I also commend you for the initiative that you have taken in having this hearing on the future of arms control. I have left with you some material that is published by the News Service of the Lutheran World Federation, news releases that have come out I think in the past 4 or 5 months. The Lutheran World Federation is made up of 97 member churches and involves 53 million members around the world, so it is a rather large group, your staff may go through as they choose and if you wish to have some of it placed in the record, that is up to you.

Senator PRESSLER. We certainly will make it a part of the record.

Bishop EITRHEIM. The Lutheran Church has not been known as one of the historic peace churches of the Christian family. In fact, very few Lutherans have been pacifists, and our theology says simply that humanity has fallen and we have recognized that force may be necessary in the maintenance of order. Lutherans have also held that government has both a duty and a right to protect its citizens. That is just where we are theologically as a Lutheran Church. Now, I am not a military strategist or a technician, and if I were to begin to delve into that area I could very quickly convince you that that is true. I am not really naive about totalitarian powers and some of the despotic rulers, many of the incidents have been referred to already by previous speakers, the illegal use of yellow rain, the invasion of Afghanistan, letting critics rot in prison, and I would have to say that personally I support some rational, and I would underline rational, defense needs, and I have no confidence in unilateral military weakness.

The point is, however, that we are now in a new era. There are some writers who are saying that we have entered a completely different era

and that in all of previous history, there have been times in history when hunger, war, and disease have annihilated huge portions of populations. But now, death by human hands can come very quickly to all communities, so we are dealing with a whole new question. It is a life and death issue, and we are not only dealing with the question of whether a world is going to become Communist or democratic, but whether it is going to be at all; and, therefore, this subject that you are dealing with is of absolute top importance on our agenda, and we have to seek ways to stop this madness of the nuclear arms race. I have wondered if when we consider national security, that maybe now is the time for an entirely fresh and new perspective.

In theology we talk about kyros moments, the moments when a number of things fit together and they are the right precise exact moment, and I wonder if that may well be the case in our history now. Previous speakers have talked about some very good reasons for deescalating the nuclear race, and I would like to raise some possibilities about that. I think all of us who believe that any war which we would be willing to fight must be a just war. One of the principles of a just war is that no war should be fought if the price you get out of it is greater than, or the price that you pay is greater than, the benefits you get out of it. So, I ask the question what, in our minds, might be worth the lives of one-half of the people in this country, and the lives of 20 million human beings in Russia? You know, what could be conceived of that is worthy of that kind of worry. These are the estimated casualties if the United States were to make the first assault and if our strikes were limited only to the ICBM missile sites there.

I think we have to ask the question also, does the nuclear arms race offer security? In the history of the arms race in the past, for the most part, there are a few exceptions, the United States has led the way. From 3 to 5 years later the Soviets have followed. So, we have to ask the question, how high do you get on this ever-increasing and costly spiral before we, as a nation are safe? I wonder if we really can't expect the Soviets to match, to invest everything to match us, and I wonder when the time is going to come when the Soviets will say, now you are better, now we are going to stop. The question, of course, that comes up immediately is, can we trust the Russians, suppose we stop, are they going to stop? That, of course, is the great concern that we struggle with. I think in response to that, we need to remember that the Russians are gaining no more security from the spiral than we are. It is as much in their interest to stop as it is in our interest, I am not sure about the equivalency of firepower.

I read one thing, I have heard different testimony today, but just for the sake of argument let us say we are roughly equivalent. Then I wonder when you look at that and the fact that both would benefit greatly by investing in their own economics, if that does not mean that perhaps now is a very critical time to take a look at the halting of the spiral, and maybe even as a number have said to jointly agree to dismantle a percentage of their nuclear weapons. We can't dump on the United States, everything must be done evenhandedly to insure, and your comment that the President might be the right person may well be true. In fact, there are changes in leadership in nations

and there are changes in balances in power in Russia, and therefore I think a high priority has to be put on whatever kind of negotiation we can. The common element that we have in our nuclear race is fear. The poll of not long ago said 76 percent of Americans believe that nuclear war is inevitable. It is a frightening statistic, because that kind of despair and that kind of doom that is indicated by that kind of survey, is bound to eat away at the moral fiber of our society, it is bound to kill the dreams that we have, it is going to mean that an eat, drink, and be merry mentality is going to surface when we ought to be working for the health of the world community, that bothers me that 76 percent of the Americans feel that way.

Now, I don't believe that nuclear war is unstoppable, I don't believe that nuclear war is inevitable, and I am convinced that South Dakotans, both those that believe that peace is based on military strength and those that believe that pacifism is the way to peace, I think we are deeply concerned about peace and justice in our planet. I believe, too, that we have a Government that is responsive to the will of the people, and I am heartened by President Reagan's offer of arms reduction talks and heartened also by your initiative in setting up this hearing. I think all of us need to encourage our President and Members of Congress to negotiate with other world powers for peace, and a nuclear freeze with every ounce of energy we have. In our churches we pledge to pray for and commend all of you to God who is at work in our world. I had intended to close, but Al Schock has already quoted these words, the words on the wall of the U.N. building quoted from Isaiah and I guess that is our dream, I will read it again. "They shall beat their swords into plowshares and their spears into pruning hooks, nations shall not lift up sword against nations, neither shall they learn war any more." Thank you.

[Bishop Eitrheim's prepared statement follows:]

PREPARED STATEMENT OF BISHOP NORMAN D. EITRHEIM

Distinguished Senators and Committee Members: I commend you for taking the initiative to arrange this hearing on the "Future of Arms Control," and I welcome the opportunity to comment.

The Lutheran Church has not been known as one of the historic "peace" churches of the Christian family. Historically, very few Lutherans have been pacifists. Our theology views humanity as fallen and has recognized that force may be necessary in the maintenance of order. Lutherans also hold that government has the right and duty to use power for the protection of its citizens.

I am not a military strategist or a technician. I am not naive about totalitarian powers and despotic rulers who resort to the use of illegal deadly poison "yellow rain," invade Afghanistan, and let critics rot in prison. Personally, I support rational defense needs and have no confidence in unilateral military weakness.

We have now, however, entered an era qualitatively different than any previous era of human history. There have been times in history when hunger, war, and disease have annihilated large portions of populations. But now, death by human hands can quickly come to all communities. World peace is a life and death issue. The issue is not whether the world will become communist or democratic but whether the world will be at all. We, therefore, must seek ways to stop the madness of the nuclear arms race.

This may be the time when we need to consider national security from an entirely fresh perspective. There are some very good reasons for de-escalating the nuclear race.

All of us believe that any war which we would be willing to fight must be a Just War. One of the principles if a war is to be just is that no war should be fought if the price you pay is greater than the benefits you get out of it. What in our minds

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would be worth the lives of one-half of the people in the United States and the lives of 20 million human beings in Russia? These are the estimated casualties if the United States were to make the first assault and it were limited only to ICBM sites in Russia.

Does the nuclear arms race offer security? In the history of the nuclear arms race, the United States has made a development of some kind; and 3 to 5 years later the Soviet Union did the same thing. The one exception was the ICB Missile, which was developed first by the Soviets. The detonation of the "A" bomb, the development of the hydrogen bomb, the development of "tactical weapons" and Polaris type missiles, and then the MIRV multiple warheads were all developed first by the United States and then by the Soviets.

Now, how high do we get on the spiral before we are safe? Can't we expect the Soviets to invest everything to match us? When will the time come when the Soviets will say, "Now you are better; let's stop the arms race?" Then the question comes, "Suppose we stop, how do we know the Russians are going to stop—can we trust them?" In response to the real concern, let's remember the Russians are gaining no more security than we are by the spiral. It is as much in their interest as it is in ours to stop it. Perhaps now when the two great powers have a rough equivalency of firepower and when both would benefit by investing otherwise in their own economics is a critical moment to halt the spiral and perhaps jointly agree to dismantle a percentage of their nuclear weapons.

Even the massive nuclear build-up by the Soviet Union may not be sufficient justification to continue our building new nuclear weapons systems: What would happen if we risk some de-escalation initiatives, some steps toward limiting our build-up of nuclear weapons, and then publicize those limitation steps as a way of announcing our intentions to the rest of the world and as a challenge to the Soviet Union to take similar steps. Isn't it possible that these initiatives may not be nearly as risky as increasing our nuclear weaponry?

The common element in the nuclear race is fear. It's creating an undertone of despair and doom that saps the moral fiber of society, that kills new dreams for the future, and that encourages an "eat, drink, and be merry" mentality when we ought to be working for the health of the world community.

I do not believe that the nuclear arms race is unstoppable and that nuclear war is inevitable. I am convinced that South Dakotans, both those who believe that peace is based on military strength and those who believe that pacifism is the way to peace, are deeply concerned that peace and justice should rule the planet. I believe we have a government responsive to the will of the people. I am heartened by President Reagan's offer of arms reduction talks. All of us would encourage our President and members of Congress to negotiate with other world powers for peace and a nuclear freeze with every ounce of energy they have. In our churches we pledge to pray for and commend them to God, who still is at work in our world.

God grant that the hope of all human beings inscribed on the wall of the U.N. Building in New York and quoted from Isaiah will come to pass: "They shall beat their swords into plowshares and their spears into pruning hooks. Nation shall not lift up sword against nation. Neither shall they learn war anymore."

[From Lutheran World Information]

SWEDISH ARCHBISHOP CALLS FOR INTERNATIONAL PEACE CONFERENCE

STOCKHOLM, March 5.—Church of Sweden Archbishop Iov Sundby has called for an international peace conference to be held here, patterned after an international world church conference held in 1925. The bishop said he has discussed plans for such a conference with church leaders in both the East and the West, though no date has yet been set, according to the Church of Sweden's news bureau.

The conference was first discussed at a meeting of church leaders in Madrid, Spain, last May prior to the Conference for Security and Cooperation in Europe that is now going on. He said that with the arms race and threats to world peace now in the world, a church leaders' conference could focus world attention on the peace issue while at the same time provide for a truly ecumenical gathering, bringing together Protestants', Roman Catholics and Orthodox Christians.

The 1925 international world conference of churches was called by the then Archbishop Nathan Söderblom. It led eventually to the formation of the World

Council of Churches, and for his efforts Söderblom was given the Nobel Peace Prize.

WORKING PARTY ON PEACE, YOUTH DESK CALLED FOR BY CHURCH COOPERATION COMMISSION

KENOSHA, WIS., June 18.—A call for a working party on peace issues, support for a youth desk at the Lutheran World Federation (LWF) and approval of some 150 projects on five continents were among the actions taken at this month's LWF Commission on Church Cooperation meeting, which met June 5–12 in Chicago and on the Carthage College campus here.

Among the major projects approved was a US$1.8 million reconstruction of the Augustinian monastery in Erfurt, GDR, where Luther was a monk and professor. Also supported by the commission at its annual meeting was a US$400,000 project for theological education in Africa.

Noting "with alarm the apparent escalation of arms build-up taking places within the NATO and Warsaw blocs," the LWF church cooperation commission called for a working party of representatives from European, North American and other churches "to evaluate together the actions of churches in this area concerning peace and security, to facilitate an exchange of insights and to contribute to mutual understanding and cooperation within the framework of the worldwide Lutheran community."

CHURCH COOPERATION DIRECTOR SAYS PEACE THREAT IS "FRONTIER OF MISSION"

CHICAGO, June 18.—"The threat to peace is a crucial frontier of mission today," Risto Lehtonen told members of the Lutheran World Federation's Commission on Church Cooperation here. And he called on churches to become "an important channel of communication across the ideological boundary" between East and West at a time when government-sponsored and non-governmental communication in many areas has "slowed down or come to a halt."

Lehtonen said contacts across ideological dividing lines should be multiplied, "and the churches including those in North America ought to persist in promoting such meetings and visits." He said, "They can serve as an antidote to the extremely dangerous cold-war mentality. Confidence is essential in order that a reversal of the arms race could become possible."

As one of the fruits of previous contacts, the director of LWF's church cooperation department cited the plan of Protestant churches in the German Democratic Republic to turn the Augustinian monastery where Martin Luther once studied into a church center. The place could host international meetings and provide "mutual stimulation of churches in mission at all levels of their membership." And Lehtonen said the project, to be completed for the 1983 celebration of Luther's 500th birthday anniversary, "is an expression of the courage of faith and creativity in the search for mission opportunities in a territory that many in the West considered lost to Christianity 30 years ago."

In his wide-ranging report, Lehtonen also urged Lutherans to continue to assist fellow-Christians in Namibia. "With the war and oppression dragging on and with the shift of the new administration of the United States becoming less critical of the racist policies of the Southern African government, there is a danger that LWF member churches may lose sight of the continued urgency of the situation and become immune to the news of the hardships there."

He said that every Lutheran congregation in Northern Namibia and virtually every family has been touched by the war raging there, "The South African government has once again resorted to violent repression and repeatedly rejected international efforts to assist Namibia to achieve independence through peaceful methods." About half the population of Namibia is Lutheran.

He urged Lutherans to coordinate their efforts in the People's Republic of China "lest the tragic mistakes of the past be repeated." "Concepts of an imperialistic mission that serve the political, economic or cultural interest of peoples outside China, or even raise the suspicion of such motivations, must have no place whatsoever in the lift of Lutheran churches and the LWF," Lehtonen said.

Peace Work in the Churches of the GDR

(By Gerhard Thomas, editor of a Mecklenburg church weekly)

On this year's spring meeting of the Mecklenburg synod a synod delegate, who is a veterinarian, said, "I am thankful that we do not reduce our efforts for peace. Our present situation is characterized by an immense increase in defense spending. Billions of dollars and rubles are withdrawn from the political economies. Each one of us can imagine what kind of consequences this has for people in the so-called Third World. My power and our power is not enough to prevent the powerful from increasing their arrangements. But they should know that we carry in our hearts a tremendous longing for peace and that we shall make the most of each opportunity to repeat this over and over again. . . . Although the psychoses are spreading I am optimistic that we will maintain peace in Europe."

This statement, involving emotional engagement, expresses the worries and hopes of many East Germans, not just the Christians. Of course, you can smile at such a comment with knowing skepticism and set it aside. But you can also see it, and that seems more appropriate to me, as a barometer for newly grown awareness. Bishop Heinrich Rathke of Schwerin wrote to all church workers in a Lenten letter that it's impossible "to be a Christian keeping a distance," that is, not letting world problems bother you.

In a "Statement on the present world political situation," the conference of Protestant church leaders in the Germany Democratic Republic (GDR) declared in January last year that the peace work of the church is no longer just an occasional task, but it should be practiced as one of its most important challenges to its testimony and its service. The awareness for this, that peace is a main subject of Christian testimony and service, has grown over the last years, not only among church officials, but also in congregations, especially among young Christians.

If you observe statements and actions of Protestant churches concerning peace issues, you notice four catch-words:

The churches have stressed over and over again that—according to the gospel given to them—they should look after their peace responsibility independently. The conference of church leaders clearly expressed this to the national synod in autumn last year, "Especially as our peace service looks for the cooperation with non-Christians, our service can be mistaken, so that a specific, unjustified contribution no longer seems recognizable. It is not the worry about our identity or our profile that should determine our situation. What is important is that in the diversity and also contradictions of the understandings and strategies of peace in our world, the peace of Jesus Christ governs and orientates us."

In a talk on principles between Erich Honecker and the board of the Church Federation on May 6, 1978, the churches were accepted as independent institutions, who as such have to take social responsibilities. Although there have been burdening difficulties in the relationship between state and church, the basic statement of May 6, 1978 is still valid today. This was made clear in a communiqué, published by ADN, that could be read in the "Neues Deutschland" after state-church talks on November 17, 1980, the first regular talks after the tense autumn months. It says, "In view of the complicated international development—especially today—you have to stress that patience and creating of confidence remain fundamental elements for détente policy. The church realizes its independent responsibility for world peace through its own possibilities, such as for example in the form of prayer and the education for peace." Considering the situation of fall 1980 this communiqué by no means was a routine matter, but a basic affirmation of the church-political line of May 6, 1978.

The conference of church leaders designated the creating of confidence as a key for peace responsibility. An analysis of the armament process points to fear as the irrational driving force that escalates this process against rational insight, good will and the interests of everyone. The reduction of fear does not happen through the erection of a balance of fear, but through creating confidence. In their statements on peace issues the churches again and again refer to the Final Act of Helsinki in which the overcoming of distrust, in other words the creating of confidence, is seen as a major precondition for détente and the securing of peace.

Practical attempts for peace, which occur in grass-roots church groups in the church and are often initiated by young people of the congregations, are given priority under the aspect of education for peace. What's important is not uttering big words and statements of intent, but rather to practice peaceful ways of behav-

ing in personal, human relationships as well as in society. These attempts are based on the perception that creating and supporting peace is not a mere international political question or task but a life-accompanying process.

The "decade for disarmament and peace" was initiated by the Protestant youth organization and then supported by the conference of church leaders. It culminated in a service pleading for peace on the Day of Repentance 1980, jointly agreed upon by the Evangelical Church in Germany (EKD) and the Federation of Evangelical Churches in the GDR, and was completely dominated by the aspect of peace education. Under the motto "Create peace without weapons" seminars and other events on the subject peace were held in congregations. Later when it became known that Bishop Lohse, chairman of the EKD council, had called this motto "naive," many Christians here, who were committed to this motto, were very much irritated.

There are two areas in society where church attempts for peace education become relevant: the one is army instruction and the other is the existence of minorities who think differently in the GDR society. To live with minorities is troublesome and complicated. But you can learn to cope with tensions and conflicts through dialogue and jointly searching for solutions. This is a wide social field where peaceful ways of behaving can be practiced.

In the area of army instruction the church, also in its talks with the state, has time and again pleaded for including peace education in this instruction. At this year's spring meeting the Mecklenburg synod noted that the government of the GDR as well as the Federation of Evangelical Churches in the GDR participated in a UNESCO congress in Paris in October 1980, where education for disarmament had been named one of the crucial subjects and had been approved by the participating states.

For years the Protestant churches in the GDR have attempted to take on ecumenical responsibilities. Not only have they participated in ecumenical conferences, but also they have developed initiatives for bilateral talks on the subject of disarmament, détente and peace—for example they have held talks with the National Council of Churches in the USA. There are intensive talks with the West German Protestant churches so that there are continuing encounters and dialogues at the "seam" of the two power blocs. The joint statement of the EKD and the GDR-church federation on the 40th anniversary of the outbreak of World War II: the talks of the chairman of the Federation of Evangelical Churches in the GDR and Bishop Lohse of the EKD with the East German state secretary for religious affairs on the peace attempts of the churches in the GDR and FRG; the joint arrangement of the churches in both states for the Day of Repentance 1980, as well as the regular consultations between the EKD and the GDR-federation on questions of peace and détente—all these are positive examples of results on an ecumenical level. Communication, flow of information and joint forming of opinion are steps, even if they are small, toward living the concept of peaceful co-existence.

Church of Sweden Bishop Pleads For Peace and Responsibility

Stockholm, July 23.—When Bishop Lars Carlzon recently opened the diocesan clergy conference here he made a strong plea for peace and responsibility among Christians. The bishop, known for his strong desire to promote peace and understanding and for his staunch opposition to escalating military spending by the super powers, referred to the little booklet written by former Archbishop Nathan Söderblom "Peace governed by Christian principles." He did this with the intention of strengthening the hopes that a new peace meeting should take place in Sweden, similar to that which took place here in 1925 under the leadership of Söderblom. Archbishop Olof Sundby has proposed such a meeting to the World Council of Churches of which he is one of the six presidents.

Carlzon said peace and the responsibility for peace is a burden the whole society must carry. Again he referred to Söderblom who maintained that the church is not a political institution, but who also said that political life and action is inseparable from the duty of the church.

"There are many ways of disclaiming responsibility," Carlzon said, "and church people often accept responsibility for very limited areas of action." He asked his pastors to accept responsibility for global peace and universal disarmament. (News from the Church of Sweden).

LWF President Calls For Combatting Worldwide Paganism

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Kibira also said world peace remains a critical issue for the worldwide federation of 97 Lutheran churches. He noted particularly the deterioration in U.S.-U.S.S.R. relations. "Too many people are beginning to say, 'when the nuclear war comes,' instead of, 'if the nuclear war comes,' taking for granted that it no longer can be avoided. There is no doubt that we have reached a most crucial stage in world history. We Christians maintain that God remains in charge despite all human pessimism and fear these years, our hope is well grounded and firm. But this does not allow us to withdraw in an attitude of non-involvement. We as churches and as the LWF are called to give both hope and guidance to our people and to try in every way to ease the tensions between the superpowers."

He criticized the Reagan administration in the United States for increasing the already "huge spending on arms." Kibira said, "it becomes more and more clear that the hunger and underdevelopment that we are all so concerned about and which also our LWF department of world service is combatting so effectively, could easily be overcome if the incredibly huge spending on arms could be transformed into something more useful."

He said the LWF should support such efforts as those proposed by the Swedish Archbishop Olof Sundby, who has called for a worldwide Christian peace conference. "We need to educate our constituencies because only mass movements, only a 'change of heart' of many is the way to world peace."

Finnish Archbishop Sends Message to Peace Marchers

Turku, Finland, Aug. 6.—Finnish Archbishop Mikko Juva has cabled greetings to women peace marchers, who arrived today in Paris after a six-week trek from Copenhagen marking the 36th anniversary of the dropping of the atomic bomb in Hiroshima.

"I hope that your action encourages all of us to say no to the increase in armaments. We need more constructive solutions to our common problems of insecurity. Today everyone's commitment to peace work is demanded," Juva said.

The some 80 women, representing peace organizations in eight Northern European countries, left Denmark June 21, but were joined by hundreds of others along the way.

Juva, bishop of the Turku diocese, also said he hoped Nordic churches "will strengthen their contribution in the struggle for peace and support the efforts to create a Nordic nuclear-free zone."

The President of the Lutheran World Federation, Tanzanian Bishop Josiah Kibira, in his opening address to the LWF Executive Committee meeting here, said the women marchers remind Christians that the "mad arms race situation" is "the biggest moral dilemma of our time," and he said he hoped many Lutheran women were among the marchers.

Finnish Government Minister Asks Churches for Help in Peace Work

Turku, Finland, Aug. 13.—Though church and state have their own distinct roles to play, churches can help cause the world peace by providing "the spiritual inspiration that can accomplish a change of direction in man's attitude toward life," Finnish Minister of Education Paer Stenbaeck told the LWF's Executive Committee members here.

Stenbaeck, who is also chairman of Finland's Swedish Folk Party, said, "In order to make possible an attitude toward a life of generosity, confidence and openness between individuals and nations, man has to discover values in life that can overcome materialism and self-interest. The Christian church has a mandate to foster the development of such a personality in man. The fulfillment of this mandate is the greatest challenge that the policy of peace can give the church."

He said the hopes for peace and disarmament following the Helsinki agreement six years ago have not been realized, and he noted the stalemate in the follow-up meeting in Madrid, which recently adjourned. He said there is widespread resignation on an emotional level about the current peace situation.

"But our resignation has been given a practical application and we have created a system of weapons and more weapons in order to attain a negative

state of peace—a peace that is maintained with arms and deterrence and the prospect of a third world war," Stenbaeck said.

He said the church should provide citizens with the spiritual resources to want peace and justice, while the states should reach through treaties and negotiations decisions on disarmament and on a more equal distribution of the world's resources.

Stenbaeck praised the Evangelical Lutheran Church of Finland for its various peace activities, especially its "program of principles for peace work," which is expected to be approved at the church's next assembly.

American Lutheran Bishop Criticizes Unfairness of World Peace Discussions

Turku, Finland, Aug. 13.—Churches should be more even-handed in their statements on East-West peace issues, Dr. David Perus, presiding bishop of the American Lutheran Church, told members of the Lutheran World Federation's (LWF) Executive Committee at its meeting here (Aug. 5–13).

Specifically, Preus criticized an LWF church cooperation department report that referred to "high-pitched anti-communist propaganda so widely spread . . . that is fed daily to the American audience."

Preus said, "nothing is said about any high-pitched propaganda in the Soviet orbit. Nothing is said about the fact that in the U.S. there is high-pitched anti-communist propaganda, but also high-pitched anti-anti-communist propaganda because there is free speech."

He said the West openly criticizes its "own national sins and shortcomings." But he said, "if there is to be confidence-building, if there is to be establishment of a trust base on which positive international relations may be built, then there must be even-handedness, a mutual openness and honesty. The churches especially have a responsibility to insist on such even-handedness."

The American Lutheran bishop said U.S. churches are praying and working for peace. "We publicly deplore the insanity of the worldwide arms race and call on the U.S. government to take the lead in working for its reversal. We publicly deplore the enormous expenditures for military purposes and cite the biblical warnings to those nations who put their trust in weapons. The more difficult part is to suggest realistic ways by which the nations of the earth might turn their talents toward justice and freedom for all humankind," Preus said.

While recognizing "the danger of cold-war rhetoric," Preus said there were several areas that cried out for even-handedness.

First he criticized a line in the report that chided post-Afghanistan "news about all out hardening of Soviet attitudes which is fed daily to the American audience," while there was evidence that church life was improving in Eastern Europe. Of this Preus said, "the weight of that sentence suggests that the modest improvements in church life in Eastern Europe should counterweigh the impact of the invasion of Afghanistan and the drastic treatment of the members of the Helsinki watch committees in Eastern Europe."

Second he said that criticism of increasing arms expenditures in Western countries should equally apply to the Soviet Union. "Are we to suggest that unilateral military weakness is the pathway to peace, that Western expenditures are to be opposed and Eastern ignored?" he asked.

Third, he said the debate in the West over missile placement obscures the fact that there was no opportunity to publicly oppose Soviet placements.

Last, citing his experience as an adviser to the Madrid post-Helsinki conference, Preus said, "each Western country reports on areas of difficulty and describes the way in which they are striving to end these violations. But from the Eastern side there is only perfection. Not one acknowledgement of a human rights violation . . . how do Christians or any other citizens, find a common basis for negotiation when one of the sides has adopted the position that it cannot be wrong?"

Documentation: Statement on Peace by LWF Executive Committee

(Note.—The following statement was unanimously approved Aug. 13, 1981, by the Lutheran World Federation Executive Committee at its meeting in Turku, Finland.)

1. The LWF Executive Committee is intensely aware of the increased tensions between NATO and Warsaw Pact countries in general and the USA and the USSR in particular. There is an urgent need for a widespread response from Christians.

2. The Executive Committee deplores:

The large-scale increase in military spending on both sides, the escalation of the arms race, and the development of new weapons, such as the neutron warheads in various countries;

The massive build-up of intermediate range nuclear missiles by the USSR and the USA;

The slow progress of the Madrid follow-up conference on the Helsinki Final Acts (Conference on Security and Cooperation in Europe);

The weakening of contacts and communication between the leaders of Western countries and the socialist countries of Eastern Europe;

The consequent spread of dread, fear and resignation among peoples;

The continuation of numerous armed conflicts in different parts of the world;

The prolongation and intensification of such conflicts by big power involvement in them on the basis of ideological self-interest; and

The use of the world's limited resources on arms, which sharply curtails resources available for development work and for attempts to eliminate social and economic injustices.

3. The Executive Committee affirms:

That the foundation for Christian engagement for peace is God's own will of peace for his whole creation;

That the promise of the coming of God's kingdom motivates the church in its work for peace and also brings hope and endurance even when the events of the world spread despair;

That Christians in their aspiration for peace share the longing and agony of the whole human race, and that they need to join their efforts for peace with all people of good will whatever their religion or view of life;

That peace is more than absence of war, it is a condition in which social justice prevails and human rights are protected;

That there can be no lasting peace as long as people starve, injustices prevail, people are oppressed, persecuted or discriminated against because of their faith, view of life, race or ethnic origin;

That the Christian community, which is called together from all nations and sent into the world by God, transcends all national, ideological and political boundaries and thus is made a sign of reconciliation and serves as a significant bridge of understanding between peoples living in different social systems;

That Lutheran churches need to work together with all other Christian churches in order to manifest the possibility of peace between nations and races given in Jesus Christ;

That churches are called to continued repentance and renewal so their own life can demonstrate the peace which they are called to proclaim to nations;

That Christians have a responsibility to seek peaceful means for resolving political conflicts and for eliminating injustices and oppression, recognizing that the choices presented are often between greater or lesser evils; and

That differing convictions exist among Christians concerning the methods for promoting peace, and that respect, dialogue and cooperation between the church members whose views differ are essential.

4. More specifically the Executive Committee recommends to the member churches that they:

Intensify direct personal communication between Christians living under different social systems, thus countering the temptation to adopt cold war attitudes or to consider other nations and groups as enemies;

Increase efforts to share across ideological dividing lines reliable first-hand information about the life of churches and their societies;

Consult with each other regarding church actions supporting peace, disarmament, non-proliferation of nuclear weapons, support of negotiations and the pursuit of human rights, social justice and national independence;

Develop patterns of peace education and service programs for peace in cooperation with other churches and, wherever possible, with peace research centers and other such organizations;

Communicate to governments, political leaders and the wider public the churches' concern and efforts for peace.

Attention should be drawn especially to: the churches' concern for a successful conclusion of the current Madrid follow-up conference on European

Security and Cooperation; the need for immediate action to reduce the threat of nuclear war; and the efforts and experiences of churches in their work for peace in other countries and especially those living under different social systems.

5. The Executive Committee in commending this statement to LWF member churches in assuring them that the LWF will assist them in their efforts and does so with the conviction that the promise of God's love for his world and his church stands firm.

WCC Central Committee Appeals for World Peace

(By Gerhard Thomas, editor of the Mecklenburg (GDR) church weekly)

Dresden, GDR, Aug. 27.—In view of the fact that international relationships have deteriorated during the course of the year, that tensions have aggravated and that there are alarming tendencies, the Central Committee of the World Council of Churches (WCC) has issued a statement at its annual meeting here, addressing all those politically responsible and the churches. Mentioned in the appeal are the development and production of new dehumanizing weapons—such as neutron warheads—that the Conference on Security and Cooperation in Europe (CSCE) has not brought positive results so far, the violent conflicts in different regions, the increasing world economic crisis and the continuing stagnation of the North-South dialogue.

The statement urges the leaders of the two military blocs to meet as soon as possible for disarmament talks. In the interest of setting up confidence and peaceful settlement of conflicts the peacekeeping mechanisms of the United Nations and other regional organizations should be strengthened. In a joint UN resolution the nuclear powers should offer guarantees to countries who decide to create nuclear-free zones and thus set up confidence between nations, the statement says. The industrial countries should meet the goals set up by the United Nations on international development aid and they should facilitate constructive negotiations for the realization of more just North-South relationships. The right of all people to change unjust social, economic and political situations should be supported internationally, the statement says.

Against the background of the extremely dangerous present situation the WCC Central Committee, meeting for the first time in 25 years in an Eastern European Communist state, emphasized the responsibility of the churches. It underlined the necessity to clearly, basically and consequently formulate the peace commitment. Thus the Central Committee urged the churches to oppose the army and any militaristic politics, to work against the tendency of creating cold-war mentality, to come up with new peace conceptions that are based on peace commitment. Thus the Central Committee urged the churches to oppose justice and the rights of peoples and to point to the causes of war.

The Central Committee said it appreciates the efforts for peace made by many churches. Among these efforts are education for peace and the organizing of peace weeks. The Central Committee also noted with acknowledgment that a large number of groups and movements throughout the world are committed to peace and disarmament and that there are many Christians, in obedience to the gospel, working in these groups and movements. In this connection the statement stresses that the right to refuse military service for reasons of conscience should be guaranteed.

The statement urges the churches to strengthen their commitment to peace and appeal to the consciences of their members about what it called the threat to peace. It also calls for bilateral and mutilateral talks among the churches which would help to improve the understanding between nations and decrease mutual fear and distrust.

Commitment to Human Rights Includes Commitment to Peace and Détente, Consultation States

(By Theo Tschuy, secretary of the human rights program of the Conference of European Churches)

Croydon, England, Oct. 22.—"Commitment to the implementation of human rights includes a commitment to peace and détente, just as the struggle for peace includes a struggle for the full dignity of the human being." This key

sentence summarizes the findings of North European Human Rights Consultation held here October 3–8 under the auspices of the Conference of European Churches (CEC). The consultation challenged the churches to have a new look at human rights issues in Europe.

The theme of the consultation was "Christianity, human rights and confidence building." The final statement notes: "Many people now suffer from the tension between socially necessary work and personal fulfilment through creative activity. How can we help people to develop a new work ethic, new forms of community-creating work and meaningful models for a redistribution of income?" Concerning relationships with developing countries the participants stated . . . "that it is time to make Europe the starting point of world-wide détente because for too long Europe was the source of world-wide conflict and massive human rights violations. As churches in the rich North, we have responsibility for being at the side of the poor in their search for justice."

U.S. Lutheran Bishops Among Those Urging End of Arms Buildup

Seattle, Wash., Nov. 26.—Dr. A. G. Fjellman, bishop of the Lutheran Church in America's Pacific Northwest Synod, and Dr. Clarence Solberg, bishop of the American Lutheran Church's North Pacific District, are among 16 Washington religious leaders who issued a statement calling for an end to the nuclear arms buildup. "The spectre of a communist threat does not, in our view, justify building such nuclear weapons," the leaders said. "A willingness on the part of some to destroy life everywhere on this earth for the sake of our security as Americans is at the root of many other terrible events in our country."

The signers emphasized the need for a religious solution to the threat of nuclear war. "Politics itself is powerless to overcome the demonic in our midst. It needs another dimension," they wrote. "We are convinced that the way out of this terrible crisis can be discovered by the deepening of faith and prayer . . . We need to turn to God with open hearts to learn once again what it means to have faith. Regarding the Soviet Union's buildup of nuclear arms, the leaders said, "We need to risk some de-escalation initiatives and to publicize those limitations as a way of announcing our intentions" as a challenge to the Soviet Union to take similar steps.

The statement is the church leaders' response to a speech by Seattle Roman Catholic Archbishop Raymond Hunthausen during the Pacific Northwest Synod's 1981 convention. At that time Hunthausen called for unilateral nuclear disarmament and suggested that people consider withholding one-half of their federal taxes as a form of non-violent protest. Members of the Washington Association of Churches met soon afterward and voted to "stand publicly" with Hunthausen. They urged all U.S. clergy to "give a similar call to action." The group also agreed to ask church members to set aside every Monday as a day of fasting and prayer for peace. Fjellman said his personal response to the archbishop's challenge "is to become more involved in doing what I can to support nuclear disarmament."

Catholics and Lutherans in United States Urged to Join Witness Against Nuclear Arms Race

Minneapolis, Minn., Nov. 26.—An internationally known Benedictine monk appealed here to Lutheran and Roman Catholics to join together in witnessing against the nuclear arms race. The Rev. Godfrey Diekmann, O.S.B., said the threat of "nuclear suicide" is the greatest crisis which has even confronted the human race.

"Making peace is the hardest task on earth," Diekmann, 73, observed. "Maybe together we can make the nuclear clock move more slowly and even eventually stop it before it reaches midnight." Diekmann, who played a leading role in updating the Roman Catholic liturgy and is a former member of the U.S. Catholic-Lutheran Dialogue Committee, said Catholics and Lutherans have made more progress in understanding in the past 20 years than in the previous 400 years.

Addressing the third annual Twin Cities Catholic-Lutheran celebration of "Our Common Life in Christ," he said some persons have been discouraged about the progress, perhaps because they pinned their hopes on reaching agreement on such topics as structure, hierarchy and the papacy. But these topics, he noted, "receive

relatively little attention in the New Testament." The priest said the dialogue over the years has shown that Catholics and Lutherans "share beliefs to a far greater extent than we ever dared believe."

Sharing the Eucharist must be the ultimate hope, he said, but it should not be done "until we are fully one body." Still, he said, "separate Eucharists may help unite us because if we take Christ's prayer of unity seriously, we have no right to be a part of the Eucharist unless we pray over our separation." Diekmann said it was not enough that Catholics and Lutherans talk together, but they must also "act together." It was in connection with this reference that he made his appeal for joint efforts to stop the nuclear arms race.

Diekmann still teaches at St. John's University in Collegeville and because of the enthusiastic way he presents the church fathers, his courses in patristics for undergraduates always have a waiting list. A man of enormous energy, he also teaches periodically at Catholic University in Washington and at the University of San Francisco. Liturgy has been the life-long interest of Diekmann, who last summer celebrated his golden jubilee as a priest. He is editor-in-chief of Worship. The magazine was founded by another Benedictine priest, Virgil Michael, regarded as the pastoral liturgical movement in this country. Like Michael, Diekmann has emphasized that the movement has to be concerned with all of life, including social implications.

Comment: The WCC's Public Hearing on Nuclear Weapons and Disarmament

(By Ralston Deffenbaugh, assistant to the LWF general secretary)

Amsterdam, Dec. 3.—Over 350,000 persons marched through the street here on Nov. 21, soberly demonstrating their opposition to the deployment of nuclear weapons in the Netherlands and in Europe as a whole. In the footsteps of the marchers, 28 expert witnesses testified before the International Public Hearing on Nuclear Weapons and Disarmament, convened in Amsterdam by the World Council of Churches from Nov. 23–27.

The witnesses presented a massive, complex and often confusing body of information. The exciting atmosphere created by the march was soon lost in the long days of hearings. The mass of information received could not be easily digested and the WCC Hearing Group's preliminary report, drafted under unmerciful time pressure, was unfocused and disappointing. The hearings served as a study process, not an action program.

While much useful information was made available for the churches' consideration, the churches now face the difficult task of interpreting this complicated information for the guidance of their congregations.

Going through the mass of information, one fact was clear: nuclear weapons are deadly, unimaginably deadly, apocalyptically deadly. Their actual use would be an unmitigated evil. Even the somewhat chic idea of a "limited" nuclear war probably would, if implemented, result not in the millions of deaths intended but in the total annihilation of human life. The Hearing Group expressed deep revulsion at the very idea of nuclear war.

The theological witnesses—Burgess Carr, Günther Krusche, Edward Schillebeeckx, Roger Shinn—concurred. Dozent Krusche, chairman of the LWF commission on studies, even raised the question of whether the use of nuclear arms should not be considered a *status confessionis*, an evil so perverse that we should as a matter of our Christian faith reject it. It is only through the grace of God that we have so far been spared the day of nuclear doom.

Given the dreadful prospect of nuclear devastation it is easy to despair. At the hearings, one learned some of the details of the spectacular growth of the number of nuclear warheads, of the likelihood that soon many other nations will possess nuclear weapons, of the sometimes extremely lax controls over nuclear materials, of the seemingly uncontrollable upward spiral of the arms race. Nevertheless, as was noted by the Hearing Group, there are signs of hope, and it is part of our Christian calling to discern such signs and respond to them by faith.

There are signs of hope in the universal condemnation of nuclear war, in the increasing popular resistance to nuclear weapons, and in the variety and creativity of plans to slow down and reverse the arms race. One dramatic plan which was very persuasively presented is that of the nuclear freeze—putting an immediate halt to the testing, production and deployment of all nuclear weapons.

We will hear more about this plan in the coming months, because it is simple and practical enough to motivate hundreds of thousands to work for it.

The WCC Hearing Group will publish its final report and recommendations in time for them to be considered by the June 1982 United Nations Special Session on Disarmament and by WCC member churches in their preparations for the August 1983 WCC Assembly in Vancouver. The final report will hopefully be a useful resource for the churches in their advocacy for peace and in their participation in confidence-building measures aimed at reducing the risk of war.

As we struggle with the confusion of the arms race, as we cope in our day-to-day lives with the day-to-day risk of annihilation, it is well to bear in mind some of the Hearing Group's closing remarks:

"The churches' witness cannot be intimidated by the complexities of the issues involved in nuclear disarmament . . . The churches must speak and act now, even at the risk of some oversimplification, because the peril is so great, and it is the life of mankind itself that is threatened."

DOCUMENTATION: STATEMENT ON PEACE BY THE NATIONAL COUNCIL OF THE LUTHERAN CHURCH IN HUNGARY

We, the National Council of the Lutheran Church in Hungary, at our meeting in Budapest on Nov. 24, 1981, appeal to the churches and to our congregations:

(1) It is with deep concern that we see the world has drifted still nearer to the brink of a nuclear cataclysm in the course of recent months; we consider as fatal dangers:

The escalating arms race and the effort to acquire superior military strength;

The plans to place new missile systems in Europe, which is already burdened with nuclear weapons;

The illusion of a "limited nuclear war";

The developing of new arms systems, such as the neutron weapon and arms systems to be stationed in space;

And finally, the economic consequences of a new cold war and arms race on our whole world, especially on destitute countries in need of assistance.

(2) In this difficult international situation as signs of hope we appreciate:

The resumption of negotiations, the efforts of responsible statesmen to reach peaceful settlement on any matter under dispute, and especially the recent meeting of President Brezhnev and Chancellor Schmidt;

The meeting on missiles between the U.S.S.R. and the U.S.A. to be held in Geneva; the continuing work of the Madrid Conference; the negotiations on disarmament in Geneva and the talks on the limitation of arms in Vienna; and any comparable effort at the international level;

That, especially in churches of Europe, the sense of responsibility for international issues has greatly increased; that the churches in general have not taken over the spirit of cold war (both in the East and in the West they rather consider it an important task to build confidence among peoples and bridge divisions), that several churches and church groups have been participating in movements directed against the politics of armament and confrontation and urging conciliatory negotiations; and

Growing global efforts of worldwide and regional church organizations for world peace.

(3) Our church—together with the other churches in Hungary—has for a long time been very much involved in the service of peace, also in times when this task was not regarded anywhere as a popular one. Now, as Christians all over the world are increasingly taking responsibility for peace, we appeal to the churches in the West and in the East, in the North and in the South:

To do at all levels their utmost to promote confidence-building among nations;

To urge their respective governments to engage in patient and conciliatory negotiations in any matter of dispute—today, first of all in the negotiations on missiles in Europe—in a spirit that does not strive for one-sided advantages but accepts equality and mutual and equal security as basic principles;

To urge their respective governments to help awaken public opinion in order to stop the fatal arms race and block nuclear armament at the present level, for in the armament race there can be only one winner—death;

To support by their own means the efforts of the United Nations for disarmament, especially the second extraordinary general assembly of the United Nations on disarmament to be held next year; the program of UNESCO on peace education; the activities of the World Peace Council and other international organizations directed against war; and

To struggle against hunger, suffering, oppression and for a more just, economic, social and political order in developing countries of the world, since peace cannot be maintained without justice in our ov · country.

LWI EDITORS PICK TOP WORLD LUTHERAN STORIES FOR 1981

(By Roger Kahle)

GENEVA, Jan. 7.—World peace, Namibia, Ethiopia, Luther's birthday, bilateral dialogues, Lutheran unity in North America and church protests on social issues are among the themes running through the stories making up Lutheran World Information (LWI) editors top-10 list for 1981.

1. *Lutheran efforts for world peace* topped the list of LWI stories this past year. At its meeting in Turku, Finland, the Lutheran World Federation's (LWF) Executive Committee passed a strong peace statement that deplored neutron warheads, and the committee sent a letter to both Presidents Reagan and Brezhnev urging them to resume disarmament talks. This November, 19 Lutheran bishops and church presidents from Europe and North America met with LWF President Josiah Kibira, General Secretary Carl Mau and other LWF Geneva staffers to discuss the spiritual and pastoral mandate of churches in a world threatened by a nuclear holocaust. Lutherans made up a majority of the more than 100,000 persons at this summer's Kirchentag in West Germany, which had a strong peace theme, and they were involved in the numerous peace demonstrations this year in Europe. Norwegian pastors and bishops launched a campaign against nuclear arms; Swedish Archbishop Olof Sundby called for a Christian peace conference in 1982, to be held in Stockholm. Lutheran churches in Hungary and the German Democratic Republic also passed strong peace statements.

Senator PRESSLER. I thank you for an eloquent statement. Let me say that I think our churches have a great role to play in informing the people and in bringing this message home. Of the meetings that I have held in the State, and I have held a lot of listening meetings, this particular one has generated the most mail and interest. People say that they know it is tough, but if we could just limit this arms race somehow, please do so. That is a plea that is given over and over to me as a Senator. They say that we have enough overkill and enough weapons capacity on both sides. I am going to report back to the administration the interest in this meeting. Of course a lot of people can't come during the working day, and a lot of people make sacrifices to come, but there has been a great interest, and we haven't advertised it very much except for an announcement in the media.

Bishop EITRHEIM. Yes, there is concern about it. There has been a considerable amount of writing and publicity done by the bishops of our American Lutheran Church. There are 19 bishops throughout the country, and also by the presiding bishop of our ALC. The council of presidents, which are the bishops, are placing this issue on their agenda in a few weeks. There has been publicity sent to congregations of the American Lutheran Church about ground zero, this particular program in April, I believe. It will be on the agenda of the council of the ALC in May. It will be on the agenda of the National Convention of the American Lutheran Church in San Diego next September. There is a lot of interest and a lot of concern. It seems that there is the temptation to fall into two extremes. The one is pacifism, world peace is found

this way. The other through an ever escalating nuclear strength. That somewhere in between we in our day have to desperately search for the road to an acceptable peace.

Senator PRESSLER. I serve also on other committees, the Aging Committee which deals with social security and the Commerce Committee. I oftentimes think of what we could do with some of the money if we could reach an arms control agreement, and I am sure that is a concern of yours. Let me ask you another question about the general activity, I know that you mentioned the other bishops were active. I recently had a chance to meet with Archbishop Glemp in Poland, and he said he was using his 8,000 parishes as a force to influence the Government there. We do have a debate in our society as to the participation of bishops and churches and so forth in public debates; we have the debate about the moral majority and so forth. We have always had a tradition in our country of participation. Where do you stand on the role of the church regarding political matters?

Bishop EITRHIEM. I think historically Lutherans have been what we call rather quietistic, they have not become involved with petitions or as groups speaking out on issues. Rather, the concern has been, that individuals out of their convictions, tend to inform and move the political process. I tend to be most comfortable with that, personally. We have written our Lutheran Church people on both sides. It is one of the areas that we discuss quite frequently, and the Catholic bishops, for example, now have come out with a statement about peace. I am not sure that Lutheran bishops, well they have not to this point, individual ones have, but not as a group. I guess may be it is just my quietistic Norwegian background. I feel more at home where we move on one to one rather than the church speaking quotes as the church. The church has a unique opportunity to be a place for forum. Sometimes it may be the place where it is safest to discuss issues that are very hot; maybe it is the place where we can begin to listen better to each other than some other settings. I see that as perhaps providing a place for dialog as one of the great contributions that the church can make.

Senator PRESSLER. We are trying to heighten an awareness of the arms control situation in the United States, and trying to inform Congress through hearings such as this, but also to let people know that we do hope to find a solution to this problem, but what could we do in Russia? I don't know if you have been to Russia or if your church has many members in Russia. Of course it is basically an atheistic society, although we are told there is a return to religion. I am sure Russia has some of the same problems as far as care for the aging, agriculture, student loans and grants, and all the things that cost a society. What can we do to persuade the Russians and the rest of the world to enter into such an agreement?

Bishop EITRHEIM. I believe that we in the church have an obligation to keep dialog going and there has been some of that. Maybe it is the church people there who can do as church people in this country, be a place for dialog. As far as the Lutheran is concerned, there are a tiny percentage of Lutherans in East Germany for example. Of course, Poland is Catholic. In Russia there are a number of groups, the Lutherans are really very weak. There is—another item, there is criticism of radio, of the radio, not Free Europe.

Senator PRESSLER. Voice of America, Radio Free Europe?

Bishop EITRHEIM. That perhaps they are not doing the kind of work that could be done in informing about life in the United States. Whether justified or not, I do not know. Solzhenitsyn has spoken out very strongly on this and feels this is one area where we in the United States could perhaps be doing a better job than we are.

Senator PRESSLER. Good. I really thank you for taking the time to come. We do have a statement from the United Methodist Church, and we will be hearing from one of the representatives in just a moment. Bishop Eitrheim, I know you are very active as a leader in your church and we thank you for taking the time to come. If you have additional thoughts, please submit them in writing.

Thank you very much. We had been scheduled to hear from the bishop of the United Methodist Church, but he is unable to be here, I believe, due to weather problems. Kent Millard would like to read his church's position. If you can summarize the statement, that would be very appropriate. We will just proceed.

Mr. MILLARD. Thank you very much, Senator Pressler. I bring the apology of Bishop Edwin Boulton who is the bishop of the United Methodist Church for North Dakota and South Dakota on his unavailability of coming today, but he has submitted a complete statement for the record, and I would simply like to read a couple of quotations from it.

Senator PRESSLER. If I may interrupt. Senator Cranston has now arrived. It was very nice of him to make the terrific effort. I sent a message this morning that if the planes were too difficult, we would just proceed as best we could without you. We are really honored to have Senator Cranston here, and I don't mean to interrupt the witness. He is one of the most senior and respected Members of the Senate. In addition, he is the ranking member of this subcommittee, and it has been a pleasure to work with him. We will hear Senator Cranston's opening statement, and we have to have him back to an airplane by a certain time. We are going to be very careful to have him there, because he is the whip of his party in the U.S. Senate which is a very important post.

Let me summarize the hearing if that is appropriate to this point. We have heard from a number of witnesses. We have heard from Justin Berger, who is recently retired after a career of 40 years in the Air Force; from Al Schock, who is civilian adviser of the Army; from Jack Rentschler, a businessman and; from LeRoy Mutschelknaus, a representative of organized labor, which had a special meeting in preparation for this hearing. We have heard from Bishop Norman Eitrheim, the Lutheran bishop of South Dakota; and we are just now hearing the Methodist statement. This is a continuing effort to get a cross section of opinion. Senator Cranston has made a terrific effort—I am almost embarrassed by the effort you had to make to get here. Thank you very much for being here.

Senator CRANSTON. I thank you Larry, I thank each and all of you for your presence. I am greatly impressed by the interest in the topic of this hearing that has brought each of you to this gathering today. I am very sorry I missed some of the witnesses. I will look over that testimony when it is printed, and I am grateful that I can be here for some

of the witnesses. I want to thank Larry Pressler for his leadership as chairman of the Subcommittee on Arms Control for arranging this hearing, arranging hearings we held together in Los Angeles last week, and for his dedication in mastering and making a significant contribution on what I deem to be the greatest problem confronting the human race and confronting the United States at this time. That is the danger of nuclear war. That would be the ultimate human holocaust if it occurred, with more people perishing, being dreadfully wounded, their health destroyed, and more property destroyed than has ever before occurred in all human history, if we come to an all-out nuclear exchange with the Soviet Union.

No part of the world would be immune quite conceivably from that catastrophe, because it would probably mean a total breakdown of the societies of the Soviet Union and the United States, the two so-called superpowers at the present time, and radioactive fallout and debris could destroy literally scores of millions of other people and their lives all around the country. This community is more in jeopardy than some others because of your proximity to Ellsworth Air Force Base. Prevailing winds would mean that radioactive fallout would be apt to afflict those who live between here and there, and of course a near miss on Ellsworth could be even more catastrophic directly to people here. Self interest is not really the prime motivation and should not be. It is really thinking about our children and grandchildren and future generations and what sort of a world they will face. Every generation has had given unto it, as has our generation, the gift of life. We are not truly passing on that life to our children, because we are bequeathing them presently an anarchistic worldwide arms race that is deadly dangerous, and apart from those dangers it is threatening to destroy our economy.

It is one of the reasons we don't have a balanced budget, and seemingly cannot balance one for some time to come. It is one of the reasons we have inflation. It is one of the reasons we lack in productivity, because we divert so many resources and so many of the greatest intellects of our country of a scientific bent and others, and so on, of our effort to the national defense efforts and the arms race while some of our competitors like the Germans and the Japanese do much less and therefore are building economies that are out competing with us in advance technology and in many, many other ways.

Those reasons are secondary, obviously, to survival; and yet they are rather convincing reasons, and they are important reasons to add to your concern. What we must do is devote ourselves, as this hearing is devoted to hearing from people all across the country, to stirring the interest of people all across the country in developing a sound approach to arms control agreements that must be worked out between ourselves and the Soviets, and then include other people. There are those who say, how can you trust the Soviet Union, so how can you have an arms control agreement with them. I would not vote for. I am not sure Larry Pressler would not vote for, no President would sign a treaty based upon trust. It must be based upon verifiable methods of agreement where we can check up and they can check up on us to insure that any agreement is being abided by. Bad as Soviet behavior is in many respects—they are adventuristic, they are op-

portunistic, they are brutal in Afghanistan, they are brutal through their proxies in Poland and elsewhere—that does not mean we must not seek arms control agreements with them.

The fact they have different philosophies and a different system and therefore we are going to have differences and confrontations with them, adds to the need for arms control. The purpose of arms control is to contain those differences so they don't become nuclear in nature, and result in that form of absolute total violence in our world. I hope that out of this hearing and others that we are holding that we will gain momentum and direction leading us to a solution to this overwhelmingly serious problem, and again I thank you, Larry, for your leadership on this vital issue, and each of you for your presence and interest. Thank you very, very much.

Senator PRESSLER. We will proceed with Kent Millard, Methodist superintendent for Bishop Boulton who lives in Fargo, N. Dak. The last Methodist bishop lived in Aberdeen, who is now the president of the American Council of Churches?

Mr. MILLARD. National Council of Churches. Bishop Armstrong, who was our former bishop is president of that. We take turns, there is South Dakota once and then North Dakota. Bishop Boulton cannot be here, but I would like to simply read a portion of his statement. He begins by quoting the United Methodist Book of Resolution which is an official stance, that the United Methodist Church nationwide has taken by our general conference in 1980. There are 9½ million members in the United Methodist Church, the third largest in the Nation. Here is the statement:

> Peace is not simply the absence of war, a nuclear stalemate or combination of uneasy cease-fires. Peace is that emerging dynamic reality envisioned by the prophets where spears and swords give way to the implements of peace. Where historic antagonists dwell together in trust and where righteousness and justice prevail. There will be no peace with justice until unselfish and informed love is structured into political process and international agreements.
>
> The goal of world disarmament, demanding a radical reordering of priorities, and coupled with an effective system of international peacemaking, must be kept constantly before peoples and governments by the church.

That is the end of the official stance. Bishop Boulton goes on to say this:

> My personal conviction can be briefly stated. I believe our current armament policy is immoral and is a major deterrent to the development of a sane foreign policy. It is immoral for so much of our national resource to be spent on arms production, because such a program actually exacerbates our economic crisis internally.
>
> Goods, services and programs which could be directed to the public good are diverted into the non-usable and soon obsolete instruments of war. And our armament policy is blatantly immoral, as well, because it presumes the potential use of weapons which will have indescribably horrendous consequences on its victims now and for generations to come. If ever such instruments are used, a new chapter of beastiality will have been written which will pale the atrocities of Auschwitz and Dachau.
>
> How is it possible for people to not raise a voice of protest, and cry in the name of God and humanity, stop? Then finally, the tragic irony of the arms race is that a nation presumes it can enhance its national security by adding inordinately to its storehouse of weapons. There is little chance of a limited nuclear encounter. There is no way for there to be a winner in a nuclear war of any size. The irony, again, therefore, is that as the arms race is accelerated, the chances of security are diminished.

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I think that that is the summary of the bishop's statement.

I would certainly make the observation that listening to the previous testimony, every one who has testified is in favor of peace, there has not been any disagreement there. The question at issue is how to get the peace. Frankly, there are sincere and honest Christian thoughtful people who feel that peace is best achieved by accelerating the arms race or making sure we are stronger than any other nation on the Earth. There are other conscientious Christian people that believe that peace is enhanced if we begin to cut back on nuclear armaments. I guess the official stance of the United Methodist Church would be on the latter side. Individually United Methodists may believe we need to be stronger to insure peace. The official stance of the church would be to stop the arms race. That would be a better way of achieving peace.

Several years ago Secretary of Defense Robert McNamara, testified only 200 to 400 nuclear weapons would be needed to destroy every Russian city of 100,000 population or more. That all we would need is 400 nuclear weapons on target that would ultimately destroy those major cities in Russia. We currently have somewhere around 50,000 nuclear weapons. That means we have the capacity of destroying every Soviet city of 100,000 or more 45 times or over, and they have the capacity of destroying every American city of 100,000 or more 13 times over. The question is not whether or not we should be strong, the question is are we strong enough?

We can virtually destroy every human being in the world several times over. This is the time to stop and begin to use our resources and the resources of the world in more humane ways. Several scriptures have been quoted this afternoon and one that came to me was the words from Jesus in Mathew 26, Verse 52. When he was being defended by Peter with a sword, he said to Peter, "Put away your sword. He who lives by the sword will die by the sword." I think we have an important responsibility as leaders in this country to try to see that the nations of the world do not continue to live by the sword unless we all perish by the sword. Thank you.

[Bishop Boulton's prepared statement follows:]

PREPARED STATEMENT OF EDWIN C. BOULTON, BISHOP OF THE DAKOTAS AREA OF THE UNITED METHODIST CHURCH

Thank you for the opportunity of submitting this statement on the subject of arms control. I reside in North Dakota, but I have pastoral and administrative responsibilities in South Dakota. I am deeply concerned about the many issues that touch upon the question of world peace. Thus, I am grateful to you for receiving this statement.

The position of the Christian Church, generally, and of the United Methodist Church, in particular, is one of commitment to philosophies and policies which we believe will contribute to peace with justice. The position of this Church is found in a declaration, contained in our "Book of Resolutions," a document which reflects the official stance of our 9½ million member denomination.

"Peace is not simply the absence of war; a nuclear stalemate or combination of uneasy cease-fires. It is that emerging dynamic reality envisioned by prophets where spears and swords give way to implements of peace (Isaiah 2: 1–4); where historic antagonists dwell together in trust (Isaiah 11: 4–11); and where righteousness and justice prevail. There will be no peace with justice until unselfish and informed love is structured into political process and international arrangements."[1]

[1] "The Book of Resolutions of The United Methodist Church," United Methodist Publishing House, Nashville, 1980, p. 211.

"The goal of world disarmament, demanding a radical reordering of priorities and coupled with an effective system of international peacemaking, must be kept constantly before peoples and governments by the Church." [2]

If I have any reluctance in submitting this statement, it is that some pronouncements by the Church are made from a too limited base of knowledge. We sometimes overlook facts and forces which must be taken into account if our call for a better way is to carry the impact for which we hope. So, what follows is submitted with an awareness that the arms race will not yield to simplistic solutions. I am aware that some of the acutest minds (at least I hope they are) seem to be less than effective in deterring us in a drift toward what may well be the fratricide of a nuclear holocaust.

But by the same token, if those of us informed by the great Judeo-Christian ethic keep silent in the face of what many of us believe to be the monstrous immorality of the current arms race, then it can rightly be said that we were numbed into silence either by the immensity of the problem, or worse, by a capitulated cynicism.

My personal conviction can be briefly stated. I believe that our current armament policy is immoral, and is a major deterrent to the development of a sane foreign policy.

It is immoral for so much of our national resources to be spent on arms production, because such a program actually exacerbates our economic crisis, internally. Goods and services and programs which could be directed to the public good are diverted into the non-usable and soon-obsolete instruments of war. Under the Reagan administration we have already seen the inhumane dimensions of a national policy that does not blink at cutting off programs of assistance to those not totally capable of caring for their own needs. The military complex is, in the main, the only sacrosanct area in our effort to bring about much needed reforms in our economy.

And our armament policy is blatantly immoral, as well, because it presumes the potential use of weapons which will have indescribably horrendous consequences on its victims, now and for generations to come. If ever such instruments are used, a new chapter of beastiality will have been written, which will pale the atrocities of Auschwitz and Dachau. How is it possible for people to not raise a voice of protest, and cry, "In the name of God and humanity, stop!"

When the essence of a great nation's foreign policy is based on programs of threat and fear, the probable consequences of which, by comparison, make Hiroshima and Nagasaki look like nursery games. The nuclear capability we have at this moment, and our presumed intention to employ it if need be, suggests to me that our nation has indeed degenerated into a state of profound immorality. The paralyzing thing is that many of our people have so come to accept the prospect of using such weaponry, that there are seemingly few questions asked and little serious call for a sober look at what the consequences will be if ever certain buttons are pushed. Along with the weather and the price of sugar beets, the television news on Friday, January 15, carried in a matter-of-fact way the announcement that Mr. Reagan is now asking for $8 to $10 million dollars for the development of nerve gas technology.

What has happened to the moral fabric of a people who boast about the development of nuclear devices which kill human subjects, but which leave property undamaged?

I would like to give credit to whoever it was that coined a phrase that long ago burned itself into my consciousness. Unfortunately, I cannot. The phrase is this: "The First Mobilization of War is the Mobilization of Liars." The thrust of this is that most people need to be programmed, conditioned and led into a state of mind, which makes anything so obviously monstrous as war, acceptable. Except where the issue is legitimately one of defense, a nation must be propagandized into a state where it will support a war. Recently, in the Vietnam debacle, we saw our nation reject the orchestrations of the White House and Pentagon, and insist on a cessation to our involvement in that conflict, even if it meant a loss of national prestige.

I am deeply tormented by pronouncements and strategies which I believe are mobilizing and propagandizing us into a state of acceptance of war, even nuclear war, as an acceptable alternative.

John C. Bennett, President Emeritus of Union Theological Seminary in New York, focuses upon certain perceptions of our main adversary, the Soviet Union,

[2] Ibid., p. 213.

which are highly questionable, and which tragically dictate so much of our foreign policy, including the arms race. In the October 19, 1981 issue of "Christianity and Crisis," Dr. Bennett states:

"President Reagan still obsessively believes what he learned decades ago: that the ultimate intention of the Soviet Union is to dominate the world for the sake of completing the Communist Revolution. A number of the President's principal aides and advisers share his belief. Many in the nominal opposition party accept it as either true or politically unchallengeable.

"As a result our country is stuck with a debatable but undebated doctrine as a major guide to policy; in further consequence, we and the rest of humanity are more threatened by nuclear war than ever. Our European allies sense this danger more than most Americans. Apart from the threat of war, the level of military spending may well wreck our economy and cause millions of our most vulnerable people to experience the grim effects of budget cuts in their bodies." [3]

I believe, therefore, that the arms control question must be addressed within the context and be seen as an inevitable outgrowth of our overall foreign policy. I believe that the only position which holds any viable hope for any of us is one which seeks peaceful results by negotiation, and a strengthening rather than a weakening of detente and a diplomatic equilibrium. In the same article by John Bennett mentioned above, Richard Pipes, the chief authority on the Soviet Union in the National Security Council, is reported to have recently said, "Soviet leaders would have to choose between peacefully changing their Communist system or going to war." [4] I fervently hope that a recklessly threatening stance, suggestive even of a preventive war, which might be won with a large enough arsenal, will not be the prevailing policy of this or any subsequent administration.

The tragic irony of the arms race is that a nation presumes it can enhance its national security by adding inordinantly to its storehouse of weapons. There is little chance of a limited nuclear encounter, and there is no way for there to be a winner in a nuclear war of any size. The irony, again, therefore, is that as the arms race is accelerated, the chances of security are exponentially diminished.

Until some of the major powers are willing to go further in negotiating policies that are based on something more constructive than fear, then there is little hope for us to move beyond our present posture of first-strike capability and the paranoia that possibility generates in our enemies. The inevitability of conflict in a foreign policy characterized so much by threat, and its attendant ceaseless stockpiling of weapons, is as certain as death.

You will forgive my immodesty, hopefully, when I suggest that the key to the arms question may be as much theological as it is logistical.

Senator PRESSLER. Thank you very much for your statement on behalf of your bishop, and I am going to yield to Senator Cranston if he has a question.

Senator CRANSTON. It is a beautiful eloquent, moving, heartfelt statement, and I thank you very much for it. Your knowledge of the details is heartening too, because we need those understandings. Thank you.

Senator PRESSLER. I shall now call on Tom. Tom is a professor of political science here at Augustana College.

STATEMENT OF PROF. THOMAS M. MAGSTADT, AUGUSTANA COLLEGE, SIOUX FALLS, S. DAK.

Mr. MAGSTADT. I note at the beginning that before I submitted copies of my prepared testimony I was number four on the list, and after I handed it over to Doug Miller I moved down. I don't know if there is any direct correlation there, but I am not going to worry about it. I know the time constraints are important here, so I am going to skip through my prepared testimony. I will read parts of it and

[3] John C. Bennett, "Soviet Aims and Priorities: The Need for a New Debate," Christianity and Crisis, Vol. 41, No. 15, p. 275, Oct. 19, 1981.
[4] Ibid., p. 278.

summarize the other parts of it. I will begin by outlining four propositions which I believe to have a powerful bearing on the future of arms control. I will then suggest five principles, which in my judgment, ought to be observed if the U.S. Government is really serious about achieving significant arms reductions in the foreseeable future.

Proposition No. 1, the fact that the U.S. Government operates within the context of a democratic society and the Soviet Government does not, gives rise to a political asymmetry which places the United States at a disadvantage in negotiations with the Soviet Union. That is a fact of life, and it cannot be altered. This point doesn't require a great deal of elaboration. They have advantages in terms of secrecy, they have advantages in terms of patience, perseverance, and continuity, they don't have to worry about public opinion, et cetera.

Proposition No. 2, since the death of Stalin, the Soviet Union has become more adept at exploiting the weaknesses of our society, particularly public opinion. Since the death of Stalin and Khrushchev's time the Soviets have become more adept at manipulating public opinion, and I guess you could say the media, in a sense, against our foreign policy. Vietnam is an obvious example. I take no particular position on that issue, but I say that the lesson is that public opinion can really be the Achilles heel of any American foreign policy.

Proposition No. 3, the SALT process, as it was called, failed to produce real arms reductions because the timing was wrong, not because arms reductions with the Soviet Union can't work under some circumstances, but because the timing was bad in the sense that the Soviet Union was tempted by favorable circumstances to undertake an unprecedented arms buildup using the pretense of arms limitation. It turns out, I think, that on very close, not even very close, but cursory examination, of the SALT I agreement which I thought was a good idea at the time, that agreement really did not have much to do with arms reduction. That was an agreement to set ceilings on strategic weapons, and those ceilings were really higher than the levels we had reached at the time. It turns out really to have been more of an arms legitimization agreement than it was arms limitation. It was misnamed in a sense.

The fourth proposition. The decade of the 1980's is likely to be much more conducive to arms reduction than the decade just past; consequently the U.S. Government should make a bona fide effort to make across-the-board reduction in all types of armaments. I think it would be a tragic irony if, because of the failure of the SALT process to produce genuine arms agreements or arms reductions, if it were to be concluded that arms negotiations under any and all circumstances with the Soviet Union are foredoomed to fail. I do not think that is the case. I think the Reagan administration has taken a step in the right direction in terms of the possibility of getting genuine arms reduction in the 1980's, but it has only taken one tentative step.

I would like to suggest five principles that might be followed which I think would offer a kind of recipe for arms reduction talks and I am going to read this portion of my statement. It should not take more than 3 or 4 minutes. First in contrast to SALT I and II, the numbers of strategic weapons, both warheads and launchers, must be equalized in all major categories. Here I think reciprocity is the key. That is to say both sides have to make concessions. Second, unlike the

arms limitation talks of the 1970's, future negotiations must be aimed at legitimate arms reduction. The overkill of the superpowers which has just been commented upon very eloquently makes anything short of significant arms reduction look like a game of nuclear charades. If both sides are unwilling to reduce those redundant stockpiles of mass destruction weapons, why is there any reason to believe they will limit the future stockpiling?

Third, strategic arms reduction talks [START] must be better articulated with the negotiations over long range theater nuclear forces now going on.

The de-coupling of theater nuclear forces and strategic weapons systems is militarily illogical and politically ill advised. The exclusion of the SST–20 from the SALT II agreement is a good case in point. This two-track negotiating process inevitably creates anxiety in Western Europe and tempts Moscow to use arms control as a means of driving a wedge between the U.S. and our NATO Allies. Fourth, conventional arms reduction talks should be linked to nuclear arms reduction so that success in one area is tied to progress in the other. At present about 90 percent of the U.S. defense budget is devoted to conventional arms. If one of the reasons for arms reduction is to cut military expenditures, it will not be enough to concentrate on strategic disarmament only to intensify conventional arms competition.

Fifth, the rest of the world, particularly the Third World, must be given a stake in the arms reduction. One way to accomplish this aim would be to pledge a portion of the savings resulting from cuts in military spending for development assistance. There is a golden opportunity here to accomplish two objectives, really, at one time. We could promote peace both through development and disarmament. Any proposal of this sort would generate enormous interest on the part of the less developed countries in the United Nations and, in turn, bring the full weight of world opinion to bear on arms reduction costs, for parties on both sides of the negotiating table.

It is fair to ask what the United States has to gain from these proposed negotiations if, in fact, as I would argue, the Soviets in the 1980's will need these arms talks, in a sense, more than we do—I say that, by the way, because I think there is clear evidence that the Soviet economy has been slowing down, that they will continue to have problems with agriculture, that they will have labor shortages facing them in the near future, and that they are overextended in terms of the so-called Soviet empire. I think they will want arms talks much more earnestly in the 1980's than they did in the 1970's. At the same time, we gain a chance to bring about a safer and saner world, in the first instance, and second, we have the prospect of relieving the heavy burden of defense spending on the Federal budget and the American taxpayer.

The United States suffered foreign policy setbacks in the seventies due largely, again, to this political asymmetry, I think, which has been recognized for many years as existing in any relationship between a democratic and a non-democratic society. Will the Soviets now recognize we have overcome our debilitating condition of the 1970's, the sense in which we were demoralized after Vietnam, the Watergate affair, and all that kind of thing? Will they recognize that this

is no longer the condition of the American people and public opinion is no longer in such a state of depression. Second, will they recognize they no longer have anything to gain from what I believe to have been a kind of disarmament duplicity they practiced in the 1970's? Only time and a serious effort by the Reagan administration to negotiate with the U.S.S.R. will tell.

[Mr. Magstadt's prepared statement follows:]

PREPARED STATEMENT OF PROF. THOMAS M. MAGSTADT

Arms control represents one of the most urgent questions on the Nation's agenda for the coming decade. The analysis that follows will attempt to explain why arms control failed in the 1970's and to suggest why the 1980's might prove more conducive to success. The final section will adumbrate a set of proposed guidelines for future negotiations.

Proposition No. 1: The fact that the United States Government operates within the context of a democratic society and the Soviet Government does not gives rise to a political asymmetry which places the United States at a disadvantage in negotiations with the Soviet Union.

"I do not hesitate to say that it is especially in the conduct of their foreign relations that democracies appear to be decidedly inferior to other governments. . . . Foreign politics demand scarcely any of those qualities which are peculiar to democracy; they require, on the contrary, the perfect use of almost all those in which it is deficient." This incisive observation, made a century and a half ago by Alexis de Tocqueville, has an immediate bearing on recent attempts at arms control because it points up a kind of asymmetry in U.S.-Soviet relations which cannot be offset by compensatory measures worked out at the negotiating table. The asymmetry in question is inherent in the radically different character of our respective political institutions.

As de Tocqueville noted, a "democracy can only with great difficulty regulate the details of an important undertaking persevere in a fixed design, and work out its execution in spite of serious obstacles." Finally, "It cannot combine its measures with secrecy or await their consequences with patience." But these are precisely the qualities in which non-democratic governments excel. The failure to appreciate the import of this imbalance is one reason why the Soviet military build-up in the 1970's seemed to come to the attention of U.S. policy-makers only after it had become a fait accompli.

Listen to the words of Roy Medvedev, a Soviet writer who, despite his iconoclasm, has managed to escape imprisonment or exile:

"Americans are fools. They come to Russia, stay in our hotels, eat in the restaurants and find out that everything here is badly run. Then they return to the United States with the conclusion that since Russia can't run a hotel, it can't build a rocket either. They don't realize that we put everything into rocketry, that the government does not care whether or not anything is left over for the population.

Americans cannot keep up with this kind of a system. In the United States everything is based on private interest. If the Pentagon wants to build a new fighter or bomber, it has to pay Lockheed twice as much as the plane costs in order to get private industry to do the job for the government. . . . Americans care to much about their standard of living to build an army to match ours."

Could it be that Medvedev has read de Tocqueville?

Proposition No. 2: Since the death of Stalin, the Soviet leadership has become progressively more adept at exploiting the weaknesses in Western democratic society, in particular through the manipulation of public opinion.

The real question raised by the so-called "SALT process" is whether the Soviet Union was ever genuinely interested in significant arms reduction. Did they truly desire greater world stability or, on the contrary, were they deliberately playing upon the soft sentiments and pacific tendencies inherent in "bourgeois-democratic" public opinion? Without question, Soviet foreign policy has exhibited a growing sophistication since the days of Stalin's forcible colonization of Eastern Europe or Khrushchev's truculent diplomatic offensive against West Berlin. There is every reason to believe that the present leadership has a much better understanding of the inner workings (and weaknesses) of our political institutions than Stalin or Khrushchev ever did. The Vietnam War demonstrated clearly

that public opinion is, metaphorically, the "soft under-belly" of American military power.

Since Khrushchev's ouster in 1964, Soviet diplomacy has been benign in style and aggressive in substance. In the 1970's they made major inroads in South Asia (especially Afghanistan), in Angola and the Horn of Africa (first Somalia, then Ethiopia), and in the Middle East (most notably, South Yemen). Libya, too, is now firmly ensconced in the Soviet camp. At the same time, the Soviet Navy now casts a long shadow over the Indian Ocean, the Persian Gulf, and the Mediterranean. The Soviets are now strategically situated at the gateway to the Red Sea and are challenging the United States for naval supremacy in the critical maritime zones surrounding what is still the richest oil-producing region in the world (i.e., Saudi Arabia and the tiny sheikdoms of the Persian Gulf). As a reminder of the global reach of the Soviet armada, it merits notice that Soviet warships now ply the waters of the Western Hemisphere.

In the 1970's the U.S.S.R. closed the strategic missile gap and they are very close to closing the technology gap as well. All this was done under the cover of "détente".

Proposition No. 3: The "SALT process" failed to produce real arms reductions because the timing was wrong and the Soviet Union was tempted by (for them) favorable circumstances to undertake an unprecedented arms build-up using the pretense of arms limitation.

The danger with the SALT talks all along was that the Soviet Union was simply using them to buy time. They have evolved a permanent wartime economy and, given the requisite technology, can produce an inexhaustible stockpile of the most sophisticated weapons. They have discovered that the Western democracies are especially responsive to symbolic acts—what might be called propaganda of the deed rather than the word. (Brezhnev's recent offer to reduce the number of SS–20's deployed in the U.S.S.R.'s European sector is a good example of a proposed "action" that gives the appearance of a conciliatory step but would do little or nothing to change the basic imbalance in theatre nuclear forces.)

For the United States, "détente" was a joint enterprise aimed at bilateral arms limitation; for the Soviets, it was a cover for "a defense build up without parallel in modern history," according to Eugene Rostow, Director of the Arms Control and Disarmament Agency. In 1972, then Secretary of Defense Melvin Laird assured the American people that the Interim Agreement on Offensive Strategic Arms would apply "brakes to the momentum of Soviet strategic missile deployments." In point of fact, the Soviets advanced farther and faster in the 1970's than American military intelligence experts thought possible even without "arms limitation."

Because of American military, political and economic reversals in the seventies, the U.S.S.R. was able to exploit a temporary weakness, one which was more psychological than physical. During this period, which began with the demoralizing "defeat" in Vietnam and the shocking revelations of the Watergate affair, we came to doubt our own purposes. The Nation seemed to have a guilty conscience. Americans felt betrayed. We did not trust our own government—its principles or its practitioners. Most of all, we were war-weary. Tired of fighting (especially fighting and losing), Americans were in the mood for negotiations—with Hanoi, with Peking, and, of course, with Moscow. After so many years of war, we wanted peace and we were willing to take some risks in order to achieve it. Wanting to believe that the U.S.S.R. was as anxious to de-escalate the arms race as the U.S., we were vulnerable to disarming words and symbolic acts. In effect, we were negotiating from a position of weakness.

By contrast, they were riding an economic and political crest. Our losses were their gains. Vietnam and Watergate aside, while the West was going through an economic "time of troubles" characterized by chronic inflation, energy woes, stagnant growth rates, etc., the U.S.S.R. was enjoying what Seweryn Bailer of Columbia University claims "will probably go down in history as the most successful period of Soviet international and domestic development." In Professor Bailer's words:

"Détente promised economic benefits and, most important, an expansion of Soviet global influence without the danger of confrontation with the United States and its allies. It also promised a further swing in the balance of global influence and power in favor of the Soviet Union."

At least in this sense, the death of "détente" is far from an unmitigated tragedy for the United States.

Proposition No. 4: The decade of the 1980's is likely to be much more conducive to genuine arms reduction than the decade just past; consequently, the United States Government should make a bona fide effort to negotiate across-the-board cuts in all types of armaments.

Why should arms talks with the Soviets in the eighties be any more fruitful than those of the seventies? To begin with, the United States has now "pulled itself together" politically and psychologically. The Reagan Administration has embarked on a major program to refurbish our strategic and conventional forces and served clear notice that we will no longer make unilateral concessions to the Kremlin. American public opinion, at times an unwitting ally of our adversaries (as the Vietnam War demonstrated), seems to be solidly behind President Reagan's "get tough" approach toward the U.S.S.R. Above all, the illusion of a gentle Soviet giant, which "détente" did so much to foster, has now been hopelessly shattered—Afghanistan, Poland, and the last presidential campaign have all combined to create a new mood of resolve in this country.

At the same time, the Soviet Union has experienced serious reversals of its own in recent years. In foreign policy, the successes in Vietnam, Angola and the Horn of Africa have been offset by a number of failures—Sino-Soviet relations, the Afghanistan intervention, and the Polish problem are emblematic of Moscow's foreign-policy setbacks. In addition, the cost of maintaining the Soviet Empire in the 1980's will become increasing onerous. The recent announcement of a $4 billion economic injection for Poland is symptomatic of the Kremlin's imperial predicament.

According to most estimates, Soviet economic growth in the coming decade will slow to a modest 2.5 percent. Serious labor shortages are also on the Soviet horizon, to say nothing of the chronic shortfalls in agricultural output. In a declining economy drained by enormous external commitments, long-suffering Soviet consumers will be harder hit by crop failures and food embargoes than they were in the 1970's. The relative prosperity of the past 10–15 years has brought about a "revolution of rising expectations" among the rank-and-file of Soviet society. A more sensitized Soviet consumer, even in the absence of open rebellion on the Polish model, will mean that productivity (always a problem in the U.S.S.R. anyway) may be adversely affected if the labor force becomes further demoralized by recurrent food shortages. To avoid this degenerative condition, the Soviet leadership will, at a minimum, have to guarantee the workers a decent diet and a living standard which holds steady.

For the reasons outlined above, the United States in the coming years will be able to negotiate from a position of strength. The opportunity for a real de-escalation of the Soviet-American arms race has perhaps never been greater at any time since World War II.

GETTING STARTED: GUIDELINES FOR FUTURE NEGOTIATIONS

There are several principles which, if observed, will maximize the probability of successful arms control talks in the short- to medium-term future. First, in contrast to SALT I and II, the numbers of strategic nuclear weapons—both warheads and launchers—must be equalized in all major categories. Here reciprocity is the key. Second, unlike the arms limitation talks of the 1970's, future negotiations must aim at genuine arms reduction. The "overkill" at the disposal of both superpowers makes anything short of significant arms reduction look like a game of nuclear charades. If both sides are unwilling to reduce these redundant stockpiles of mass-destruction weapons, why is there any reason to believe that they will limit future stockpiling?

Third, strategic arms reduction talks (START) must be better articulated with the negotiations over long-range theatre nuclear forces (LRTNF) now going on. The "decoupling" of theatre nuclear forces and strategic weapons systems is militarily illogical and politically ill-advised. The exclusion of the SS–20 from the SALT II agreement is a good case in point. This two-track negotiating process inevitably creates anxiety in Western Europe and tempts Moscow to use arms control as a means of driving a wedge between the United States and our NATO allies.

Fourth, conventional arms reduction talks (MBFR—mutual and balanced force reduction) should be linked to nuclear arms reduction in such a way that success in one area is tied to progress in the other. At present about 90 percent of the U.S. defense budget is committed to conventional arms. If one of the reasons for arms reduction is to cut military expenditures it will not be

enough to concentrate on strategic disarmament only to intensify conventional arms competition.

Fifth, the rest of the world, particularly the Third World, must be given a stake in arms reduction. One way to accomplish this aim would be to pledge a portion of the "savings" resulting from cuts in military spending for development assistance. There is a golden opportunity here to "kill two birds with one stone"—i.e., promoting peace through development as well as disarmament. Any proposal of this sort would generate enormous interest on the part of the less-developed countries in the United Nations. In turn, bringing the full weight of "world opinion" to bear on arms reduction talks would increase the costs of failure for the parties on both sides of the negotiating table.

It is fair to ask what the United States has to gain from these proposed negotiations if, in fact, the Soviets need them more than we do. First, we gain the chance of bringing about a safer and saner world for those who will live the longest part of their lives in the 21st century. Second, we have the prospect of relieving the heavy burden of defense spending on the Federal budget (and the American taxpayer). The United States suffered foreign-policy setbacks in the Seventies due largely to the political asymmetry de Tocqueville recognized 150 years ago. Will the Soviets now recognize that we have overcome our debilitating condition of the past decade? That they no longer have anything to gain from the "disarmament" duplicity they practiced so successfully in the 1970's? Only time—and a serious effort by the Reagan Administration to negotiate with the U.S.S.R.—will tell.

Senator PRESSLER. Thank you, Tom, for a really thoughtful statement; it is one of the best statements I think that we have had before our committee, as all these have been. Let me ask you a couple of questions. One, you said the timing is now right. We have certainly received more letters and calls about this hearing than any other hearing I have held. You are saying the timing is right, is this domestically, politically?

Mr. MAGSTADT. Yes. The reason the so called détente failed in the 1970's, and this is an oversimplification, but the most important reason it failed, is, it really was the wrong time. The SALT I and SALT II Treaties were the wrong treaties at the wrong time. Psychologically Vietnam was devastating, so was Watergate, it shook popular trust in the Government to the very foundations, I think; and we, I believe, as a nation have come out of that, the doldrums of the 1970's. The Soviets, by the way, over the period of the last decade and a half or so have probably experienced what amounts to their greatest period of growth and advancement in a very real sense in their domestic development and in their foreign policy. They have had some setbacks as well, but they have had some very notable successes, and they have clearly come a long way toward closing whatever strategic missile gap might have existed before, and they are very close to closing the technology gap as well. The Soviets, I think in the 1970's, were riding high, they were riding a kind of crest and we were not. I think the 1980's will be a different decade altogether, and I think they are willing to negotiate more seriously when they are experiencing troubles that are at least as great as ours. I think in the 1980's the United States will experience a kind of revival.

Senator PRESSLER. You say that in contrast to SALT I and II, the strategic weapons and war heads and launchers must be equalized in all major categories. How would you achieve that?

Mr. MAGSTADT. I don't have a formula that is foolproof, but I do think that establishing a precedent, where, say, the Soviets are allowed to have certain kinds of missiles in their arsenal and the United States is not allowed to have the same kind of missiles, the very pow-

erful SS–18's or something, that is not a very good precedent. That has been done, but that kind of thing should not be done in the future. We should try to arrive at a formula which again in terms of submarine-launched missiles, and land-based missiles, and strategic bombers will give us as close to a kind of genuine equality as is possible in all these major categories. I don't think that has been done up to now.

Senator PRESSLER. I will yield to my colleague, Senator Cranston, for some questions and I have a couple more.

Senator CRANSTON. I too want to thank you for a very thoughtful presentation. It is very helpful to hear your remarks. I do feel that fundamentally we and the Soviets have an equal stake, overwhelmingly and equal because survival of a nuclear war is so important to both that I think that overrides the economic and other considerations where perhaps they have a greater stake in some respects presently than we have.

I was in the Soviet Union in September, I went with Senator Mathias, a Republican Senator from Maryland, and we met with many of the top leaders, Gromyko and others, and I am convinced and Senator Mathias is convinced they are aware of the dangers of nuclear war and are eager to avoid it. I also attended the SALT sessions in Geneva and participated in the negotiations, and I feel that they are incredibly intricate and difficult, and we almost get bogged down in details to the point we lose sight of the goal. Plainly, the Soviet/American reactions and our reactions to what they are doing in Poland and elsewhere and their reaction to deeds we have done has created a very sour atmosphere.

Do you have any suggestions for streamlining our own security in those negotiations, and for improving our relations with the Soviets to create an atmosphere where progress would be more possible?

Mr. MAGSTADT. I have some thoughts. I don't know if they rise to the level of suggestions. One thought is that it is unrealistic to expect arms reduction talks to proceed in any sense smoothly or even to be sustained over a prolonged period of time if every time there is a blip on the screen in our relations with the Soviet Union we say we are going to interrupt those talks. That is the first point.

Senator CRANSTON. I agree with you completely.

Mr. MAGSTADT. As deeply as I feel for the Polish people, I have been in Poland, I was in Warsaw, I was inspired by that experience in terms of my own belief in freedom. I think it is very difficult to go to Poland and not be inspired in that sense, and yet it is a mistake to say that because of the events in Poland, let's say, plans for going ahead with arms reduction talks might be interrupted in some way or ought to be interrupted, I think that is a mistake.

Senator CRANSTON. To do so suggests that arms control is a reward for the Soviets, and not in our own interest plainly if we are sacrificing something in our own interest?

Mr. MAGSTADT. Yes, and to say that arms control isn't a high enough priority.

Senator CRANSTON. How do we improve the atmosphere and simplify the negotiations?

Mr. MAGSTADT. I think that there was an imbalance of interest in arms talks. That is what was missing in the 1970's again, in the early

1970's when détente got started; I believe that for the Soviets détente was not only a policy of reducing tensions, it was a way of inducing a false sense of security. I believe that was their intent. You know, that isn't even to attribute demonic motives to them, it is just sort of clever gamesmanship. I think they were able to do that. The problem wasn't so much one of attitude, I think the circumstances at that time tempted them too much to do that. I think now that situation has changed. The Sovies respect strength and resolve, and I am a little reluctant to say this, but I think probably the Soviet leadership respected the Nixon administration and Kissinger as a negotiating counterpart, because the Soviets believed that Henry Kissinger and Richard Nixon thought along the same lines. Oddly enough, they might have trusted Nixon and Kissinger more than they would ever have trusted Jimmy Carter because Jimmy Carter always talked about human rights and justice and Helsinki, and they wanted to talk about, well, they want to get down to brass tacks.

They do not have an infinite capacity to produce military hardware. They do have an enormous capacity to produce military hardware, but it is not infinite. One of the major problems they have experienced consistently over the many decades they have been in existence is a problem of low labor productivity. The way the Soviet people rebel is not the same as the way the Polish people rebel. The Soviet workers rebel by absenteeism, they rebel by slackening off on the assembly line, they don't work as hard. That is a kind of rebellion that no dictatorship, no matter how repressive it is, can put down. The one thing they have to fear more than anything else in terms of their own internal development and their economic growth and so forth, is that they won't be able to provide the Soviet people with even that relatively low, by our standards, standard of living which the Soviet people have become accustomed to in the last decade or so.

People who have been there off and on over the period of the last 20 or 30 years note that while their living conditions don't compare to ours, nonetheless, they have gotten better, and the Soviet people may tolerate a leveling off in the rate of improvement, but I think that if there is a sharp reduction in terms of availability of consumer goods, et cetera, it will very adversely affect their plans for economic growth. They simply cannot continue forever to put all of their eggs in one basket, in that military industrial complex, even to the extent they have in the past. That is a major factor in the 1980's and the Soviet leadership knows that. We can't either; we have a mutual interest in that respect. I agree with you Senator Cranston, they are horrified at the thought of a nuclear war just like we are.

Senator CRANSTON. Thank you very much.

Senator PRESSLER. Let me ask you one more question. You say conventional arms reduction talks should be linked to nuclear arms reduction?

Mr. MAGSTADT. Yes.

Senator PRESSLER. Would you expand on that?

Mr. MAGSTADT. I think it is a mistake to see nuclear arms as the major problem. I think the conventional armaments are a tremendous drain on our economy and their economy, and the more than likely scenario for war is conventional war it seems to me in Europe or wherever. It is not nuclear war. We ought to be talking about conventional arms

reduction, too, if they want arms reduction and we want arms reduction. I'm not saying one ought to be a precondition for the other, but I think they ought to be linked in such a way that progress on both fronts is important to the success of arms talks on either side, conventional or strategic. There has perhaps been too much emphasis on the strategic arms reduction in the 1970's at the expense of conventional.

Senator PRESSLER. Do you have a course on this subject here at Augustana?

Mr. MAGSTADT. Yes.

Senator PRESSLER. You do a very good job. I am very proud of your testimony and expertise.

Mr. MAGSTADT. That is very kind of you, thank you.

Senator PRESSLER. Is Bishop Jones here. Will you come forward please. We welcome you here.

STATEMENT OF THE RIGHT REVEREND WALTER H. JONES, BISHOP OF THE EPISCOPAL CHURCH, SIOUX FALLS, S. DAK.

Bishop JONES. This statement is twofold, Senator. First I intend to state the position taken by the Anglican Communion's leadership at Lambeth in 1978 where bishops from all over the world met. The statement on war and violence resulting from our studies was adopted by the House of Deputies and the House of Bishops at our general convention held in Denver in September 1979. Therefore, it represents the official statement of the Episcopal Church of the United States which is part of the Anglican Communion, between 75 and 80 million persons throughout the world.

The second part of this brief is my personal views given as a Christian and concerned citizen. The second part cannot, because of our particular policy, be called an official statement of the Episcopal Church in South Dakota, although we are made up of about 10,000 Lacotah brothers and sisters and 10,000 Wasicu or white persons making up this State. The first part is war and violence. Affirming again the statement of the Lambeth Conference of 1930 and 1968, that was a method of settling international disputes is incompatible with the teaching and examples of our Lord Jesus Christ. our conference expresses its deep grief at the great suffering being endured because of the violence and oppression. We further declare the modern technology of war is the most striking example of sin and prostitution of God's gift.

Second, we do recognize that violence has many faces. In some countries where the prevailing social order is so brutal, exploiting the poor for the sake of the privileged and trampling human rights that it must also be termed violent. Poland is an example. There are social orders where it appears benevolent, nevertheless exacts a high price in human misery from some sections of the population. We have examples of that in South Dakota, particularly with our Indian population. There is the use of armed forces by governments employed, or held in threat against other nations or even against their own citizens. There is the worldwide misdirection of scarce resources to armaments rather than to human need. There is the military action of victims of oppression who despair in achieving social justice in any way. There is mindless violence that erupts in some countries with what seems to be increasing frequency, to say nothing of organized crime and terrorism,

and the resorting to violence as a form of entertainment on our television and our films. Therefore, the use of violence is ultimately contradictory to the Gospel of the Lord Jesus.

We therefore ask that and call people everywhere to do the following things. To re-examine as a matter of urgency their own personal attitude toward violence in any form. To take with the utmost seriousness the questions which the teaching of Jesus Christ places against violence in human relationships and the use of armed forces by those who would follow him, and the example of redemptive love which the cross holds for all people. To engage ourselves in nonviolent action for justice and peace and to support others so engaged, recognizing that such action will be controversial, and may be personally very costly. To commit ourselves to informed, disciplined prayer not only for all victims of violence, especially those who suffer for their obedience to the man on the cross, but also for those who inflict violence upon other people.

And to protest in whatever way possible at the escalation of the sale of armaments of war by the producing nations to the developing independent nations, and to support with every effort all international proposals and conferences designed to place limitations on or arrange reductions in the armaments of war of the nations of this world. That is our statement on war and violence. We also discuss very carefully part of the reasons for this. One of them has to do with the economic needs of all people in the world today. So, the second part of this is to change an attitude and practice of human people. We need to see the necessity of exchange, we need to see the necessary exchange of commodities in the marketplace as an area where human values can be affirmed and not ignored; to seek to insure that those involved are not treated merely as functional units, but as being worthy of and able to enter into the relationships of that kind of interchange.

We need to challenge the assumptions that more is better and having is being, which adds fuel to the fire of human greed. We need to stress that the well being of the whole human family is more important than egotistic self-interest. We need to change the focus on technology and see it not as the master with insidious fascination of its own, but as the servant of the world and the world's people and being used for the world's needs. We need to divert our planning and action to development to a new kind of society. We must direct our efforts to achieve a new kind of society where the economy is based not on waste, but on stewardship. We need to recognize that at present all over the world there is growing urbanization. Cities are in crisis. The gap between rich and poor become greater, and the gap between the powerful and the powerless continues to grow. We need to recognize that expenditure on armaments is disproportionate to the sums spent on such essentials as health, education, and constitutes a vast misdirection of limited resources that are badly needed for human welfare, specially in the eradication of poverty.

The escalation of weapons systems with their ever-increasing technology diverts attention from the real needs of mankind. So, we are appealing to the leaders and governments all over the world to do four things. To participate actively in the establishment of a new economic order aimed at securing fair prices for raw materials, maintaining

fair prices for manufactured goods, and reversing the process by which the rich become richer and the poor poorer.

Second, to consider seriously all efforts toward a peaceful settlement of international disputes. Third, to persist in the search for ways leading to progressive world disarmament, in particular limiting and reducing the production of and commerce in any kind of arms, nuclear or conventional. And to limit the development of nuclear energies so that they guard against the proliferation of nuclear weapons at the same time applying every effort to the development of alternative sources of energy. Then my own personal feelings and it is one from walking amongst the people of this State, our Lakotah people as well as people in small towns such as Gettysburg, Mcbridge, McLaughlin, Lemmon, wherever.

I perceive a growing distrust of government in this Nation resulting from actions revealed after the fact, congressional tax loop holes that favor those with large incomes while giving very little relief to the poor and destitute. Military dishonesty that has cost this Nation untold heartbreak. Presidential coverups both by President Johnson and Nixon that speak loudly of privilege rather than responsibility.

In the question of the arms race, nuclear position and honest disclosure of the results of a nuclear war really must be made known to all people. I read this report that you sent, and I appreciate it very much because in it are some facts that are absolutely astounding. We haven't mentioned the medical results of any kind of a nuclear attack which was very dramatically explained in here, if a bomb was dropped on Chicago or Sioux Falls. I don't think anyone has the slightest notion of what kind of holocaust would happen, and the absolute impossibility for us to respond to tremendous disaster. These kind of things must be made part of public information. I feel strongly that our present government has its priorities basically backwards.

I have lived through World War II, and I asked the question, does the Nation remain strong by building a Maginot line? Does a nation remain internally strong by basing a defense of nuclear warheads around its perimeter and far beyond it while it deals with poverty, unemployment, distrust of Government by cutting back on programs that give hope to the poor and dispossessed. Passing of legislation that does not allow true freedom of the press and all information, and legislation that favors a few and brings hardship to many. I don't think this is the way to go or should go.

I believe strongly the reason why in 1941 this Nation was able to rise to an international threat of freedom and move with solidarity to overcome some of history's greatest menaces is because the Government at that moment had turned its attention to the basic needs of all her people. What will truly return this Nation to its noble preeminence and excellent character will be our ability in a pluralistic society to see that the hungry of this and every nation are fed, each person whether an American or other nationality, is given a sense of dignity and purpose in their life.

So, I believe we need to stop making, selling, and stockpiling arms, and let us as a nation spend our dollars on making life on this planet

possible for all people under an umbrella of justice, peace, and equality. I thank you for allowing me to be here.

Senator PRESSLER. I thank you for your statement, and I yield to Senator Cranston for questions.

Senator CRANSTON. I thank you, too, for a very fine statement. I wish you were setting American policy. I do have one question. I am sort of taken aback and stirred occasionally, quite often as a matter of fact, when I speak out about the nuclear threat and try to arouse people to it. I do that with great regularity. Every now and then somebody says I don't want to hear about that, it is just too awful and I can't do anything about it, please talk about something else. How do you think we deal with that, and how much of a concern do you have about that, what do you think we do to arouse people to the need for a sustained relentless unremitting effort by our Government and our people to bring this arms race to an end and how do we get the American people to get that message to those in public office who are not yet committed to this cause?

Bishop JONES. I think you do need to have some prophetic voices, you need to have people who are willing to stand up regardless of the cost and say this is wrong, and I say to individual people I am not as convinced that the separation of church and state is a viable position. I mean, I have a hard time understanding how I can be a nonpolitical when I belong to a nation and to a society. I have to be regardless of where my orientation religiously is. I think that is a false assumption we are one person, we must be both politically and religiously involved. If our religion does not have some basic momentum for our political action, then there is something wrong with that religion.

I encourage individual people to write to their Senators and Congressmen, to write to people and tell them they are concerned, really concerned, and I do think we need to speak up about what the holocaust would be like. I do not think the average person walking along Phillips Avenue has any vague notion of what might happen to this Nation or the whole world if those nuclear bombs should be let go. Thank you.

Senator CRANSTON. Thank you very, very much.

Senator PRESSLER. I might add that the testimony he referred to also included what would happen to Humbolt, S. Dak. I can't imagine why the witness put that in. I shall next call on a very wonderful tennis player, but also a great person in our community, Monsignor McEneaney, who is one of my dear friends and we thank you for coming. I described to Monsignor McEneaney the meeting I had with his Holiness the Pope just about 10 days ago, and what a great experience that was to talk with him on food-for-peace issues and other matters. We welcome you here and thank you for waiting so patiently.

[Monsignor McEneaney's biographical sketch follows:]

BIOGRAPHICAL SKETCH OF REV. MSGR. JOHN J. MCENEANEY

Born: December 12, 1917—Lawrence, Massachusetts.

Education: Bachelor of Arts Degree from Holy Cross College, Worcester, Massachusetts; Theological Study at St. John's Seminary, Brighton, Mass.

Ordained: January 6, 1943 for service in the Archdiocese of Boston; May 1946, transferred to serve in the Diocese of Sioux Falls, South Dakota; served parishes

in Aberdeen, Garretson, Hartford, Clark, Brookings, Huron, and Sioux Falls, South Dakota.

Positions: President of National Liturgical Conference from 1965–1967; former Diocesan Director of the Diocesan Aid Program. Diocese of Sioux Falls, South Dakota; former Diocesan Director of the Confraternity of Christian Doctrine, Diocese of Sioux Falls, SD; has conducted workshops on Liturgy and Worship in several Dioceses in the United States, for the Professional Development Conference for the Chaplains United States Air Force in the United States, Far East and Europe, and for military personnel in Europe.

STATEMENT OF MONSIGNOR JOHN J. McENEANEY, CHRIST THE KING CHURCH, SIOUX FALLS, S. DAK.

Monsignor McENEANEY. Thank you, Senator Pressler and Senator Cranston, for the privilege of being here. In a recent appearance on the TV program, "Firing Line," moderated by the polysyllabic William Buckley, Mr. Malcolm Muggridge, the prominent British observer, found himself engaged in conversation with Mr. Buckley about our duties to God and Caesar. In response to a question about the moral use of atomic weapons, Mr. Muggridge made this observation. "I can't do my duty with the crossbow and then say I can't do my duty with a nuclear bomb."

I think Mr. Muggridge was wrong in his observation, but comparison serves to focus our attention on nuclear realities and the need for a new moral judgment. We must learn to evaluate war with an entirely new attitude. Gunpowder replaced the crossbow without destroying civilization, but certainly without improving it. Nuclear power may well destroy our civilization. In the age of dazzling technology we have discovered the power locked in the atom. With poison gas and germ warfare, we now have the power to devastate the entire population of a country, of a city, even our planet can be reduced to ashes.

The Bishops of the Second Vatican Council stated clearly:

> Any act of war aimed indiscriminately at the destruction of entire cities or of extensive areas along with their population is a crime against God and man himself. It merits unequivocal and unhesitating condemnation.

Our minds have been boggled and weary by statistics about nuclear weapons. Allow me a bit more mind boggling. The United States of America along with the Soviet Union has a nuclear stockpile containing the equivalent of 12 tons of TNT for every man, woman, and child on Earth. The bomb at Hiroshima was equivalent to 13,000 tons of TNT. One Trident submarine has destructive power equivalent to 19 million tons of TNT.

We have come a long way from the crossbow, and we have come to this dilemma: military technology has reached the stage where all human beings can be destroyed many times over. Thus, war no longer serves its traditional purpose as the final arbiter between nations. When neither side can survive, let alone win a war, then war becomes the ultimate insanity. What makes it difficult for all of us is that we are dealing with a lunacy so stark in its horror, so life shattering in its implications that we can not describe it and emotionally we are unable to cope with it, and so we tend to push it away from our attention and out of our consciousness. Just as deadly as our nuclear hardware is the numbing of our public consciousness. Acceptance has grown in many minds that nuclear weapons are necessary and a

nuclear war inevitable. The atomic clouds over Hiroshima and Nagasaki have been replaced with the clouds of resignation and complacency. President Truman had the unhappy fate of presiding over the first explosion of a nuclear bomb. Every President since Truman has expressed a desire to eliminate all nuclear weapons. None of this has come about.

It is my hope that hearings such as is being conducted today will reveal and encourage a constituency for disarmament that will match the constituency for the nuclear arms race. The leadership of the U.S. Senate is vitally important in the work for disarmament. The Senate is subject to enormous pressure by lobbies who are dependent on arms production. The need for a popular ground swell is imperative, but we have a right to farsighted and courageous leadership from such an important instrument of Government as the U.S. Senate. A time of crisis calls for extraordinary statesmanship.

Pope John Paul recently sent a team of scientists from the Pontifical Academy of Sciences to many of the world's great leaders. They have given us a picture of the destructive power of nuclear warfare that is a picture of sheer terror. At the moment, that terror is in the future. There is also a present danger, one that has steadily eroded human dignity. I refer to the enormous expenditure of money for arms while people live in misery that could in large measure be alleviated by the intelligent allocation of moneys spent on arms.

What idiotic lunacy it is to see tanks rolling down the streets of underdeveloped countries when tractors should be moving in the fields. In our own country, rich as it is, we suffer economically because of a disproportionate amount of money spent on nonproductive armaments. The sick, the aged, the poor, the handicapped, and the young suffer because of excessive military spending. Is it reasonable for us to maintain that we are defending our way of life if our very method of defense erodes the present quality of our life? In summary, one, I presume the right of self-defense—for individuals and nations. Two, I do not endorse unilateral disarmament. Three, nuclear weapons, like chemical and bacteriological weapons, can do such damage that there can be no winners, only stricken survivors. Four, our stockpile of weapons, nuclear and conventional, has gone beyond the point of reasonableness even for deterrence. Five, expenditures for armaments are destroying our chances for building a truly human civilization precisely at a time when we have the technological skills to serve people.

Six, the ordinary people of every country, including Soviet Russia, have a craving for food, shelter, and decent work, not warfare, and it is my opinion that the Russians have far more to gain from disarmament than we do. They have a right as peoples of the world to see their hopes fulfilled. Seven, we need to be convinced that there are limits to the argument that because our adversaries are doing something, we must be prepared to do it also. Eight, the task of disarmament is enormously complex.

It must be viewed and achieved in close connection with the two other great realities of our time, the development and organization of international society. Disarmament is not simply a matter of good will and cannot be improvised. I do not think it should be unilateral. It is risky business, but the risks are far less than those we face from

our present arms race. Many centuries ago, a Jewish poet gave the world some good advice, often unheeded, but still valid:

> If the Lord does not build the house, in vain do its builders labor. If the Lord does not watch over the city, in vain does the watchman keep vigil. (Psalm 127)

We must work and pray for a peace that is more than the absence of war. Thank you.

Senator PRESSLER. I would like to introduce Mrs. Cranston. Would you stand up? We are very glad to have you here; you have probably never seen so much snow before. Monsignor McEneaney, thank you very much for that statement. I guess the question is how do we trust the Russians; how do we get together with the Russians to achieve such an agreement?

Monsignor MCENEANEY. We really don't trust them, but we live in an imperfect world, and I think we have to recognize the mystery of evil that is in the world. I don't think we can be utopian in our efforts, but certainly there must be some way of achieving a measure of civilized dialog with the Russians. I think Tom Magstadt made a very good point that the Russians have tremendous problems: and the basic weakness of communism, in my judgment, is that it is basically antihuman. It is self-destructive.

I think they are going to be realistic enough to recognize the fact that the only choice they have—surely they understand the horrors of nuclear destruction as well as we do.

Senator PRESSLER. I am going to yield to Senator Cranston. By the way, anyone with casework can meet with my staff in the room upstairs. With that, I yield to Senator Cranston.

Senator CRANSTON. Thank you, Bishop, for speaking out in that way, and I know you have a profound effect by doing so. Archbishop Quinn has been very outspoken on this issue. He gave a superb speech that gave a great deal of attention last fall, and he appeared as a witness before us in San Francisco, and so I urge you onward, and I thank you also.

Monsignor MCENEANEY. Thank you, thank you for the elevation. I want to say I am speaking in place of the bishop, Paul Dudley, the Catholic bishop of the Diocese of Sioux Falls, who was unable to be here.

Senator PRESSLER. Finally, I call upon Tim Langley, who is the director of the South Dakota Peace and Justice Center.

STATEMENT OF TIM LANGLEY, DIRECTOR, SOUTH DAKOTA PEACE AND JUSTICE CENTER, WATERTOWN, S. DAK.

Mr. LANGLEY. Thank you, Senator Pressler and Senator Cranston. I am Tim Langley, director of the South Dakota Peace and Justice Center. Our organization is an education and action network of over 400 persons who are committed to applying religious values to social structures. We stand in profound and complete opposition to the nuclear weapons policies of this Nation and other nations which possess nuclear arms. As our representatives in the Senate you need to understand why this is so.

The fact is that our Government is prepared to destroy every human being in the Soviet Union, to risk the same fate for the inhabi-

tants of our country, and to contaminate the Earth, all in pursuit of limited political objectives. Rhetoric aside, this simple proposition is the unvarnished essence of our nuclear weapons policy. It is a form of terrorism and hostage taking so vast and comprehensive that we do not even think of it as such. Yet for atrocities far more modest and less ambitious than these, Nazi soldiers, technicians, and bureaucrats went to the gallows and prisons by the score, and this Nation was their accuser.

For 30 years the leaders of the United States and the Soviet Union have piously wished aloud for nuclear disarmament, while meanwhile the actual number of nuclear weapons has shot up astronomically. Our Government can gut the Soviet Union with the warheads it now has, but apparently it is not deemed sufficient. We are embarked on the age of the first-strike weapon and the ominous launch-on-warning system.

The incessant and compulsive stockpiling of these unholy devices has no more to do with genuine security than the incessant and compulsive hand washing of the neurotic has to do with genuine hygiene. Senators, I do not want my son to die prematurely and horribly. I have no desire to see a nation whose people I have nothing against slaughtered indiscriminately in some obscure judgment call. I experienced considerable dissonance between the ethos of nuclear war gaming and the values of my Lord, Jesus Christ, who said that if we so much as harbor a hateful intention, we have already committed murder—who rebuked his followers for suggesting that he call down fire from the heavens to retaliate against their Samaritan enemies.

If I had before me the architects of our nuclear weapons policies, I would say this to them. "You people go too far. You declare my family expendable in a pinch, you overrule my human instincts to seek survival and dispense mercy, and you grind under your foot the gospel I believe in. Then you demand of me my loyalty and my money to make your plans possible. You go too far." Two weeks ago the elected board of directors of the South Dakota Peace and Justice Center voted unanimously to withhold from the Federal Government the tax levied on our office's monthly telephone bill. In addition, my wife and I have determined that we will refuse to pay one-half of the Federal income tax we would normally withhold from our salaries during the coming year. We will place this money in a separate bank account and we will voluntarily surrender it to the Internal Revenue Service only at such time as our Government agrees to cease the production, testing, and deployment of all new nuclear devices. Moreover, we intend to actively encourage and assist others who wish to refuse the payment of Federal taxes for this reason.

Senators, I ask you to mark well the significance of these actions. In general, we who undertake them are middle-class, middle-aged, churchgoing Americans who have never done anything like this in our lives. We feel a certain amount of apprehension about the consequences. Yet, I would add, that we have come to feel an even greater apprehension about the consequences of not acting. The chasm between our Nation's nuclear policies and the human and religious policies upon which we have built our lives has grown so wide that we can no longer straddle it. We join persons all over the country who

are today making their choice and leaping to the side they hold most dear. It has come to that.

In South Dakota, our center is coordinating the nuclear weapons freeze campaign, which calls for a bilateral moratorium on the further production of nuclear weapons. We are aiming to collect a minimum of 5,000 signatures this year. In fact, we have already collected the better part of the first thousand although we have not officially launched the petition campaign yet. We are still in the process of preparing a training program for the volunteer organizers of the campaign; over 100 persons in towns across the State have volunteered to spend an hour or two each week educating others in their community about the nuclear arms race and soliciting their support for the freeze proposal.

In the last month and a half, five city councils in South Dakota have publicly endorsed the freeze. You mentioned Hot Springs, Senator Pressler, the others are Aberdeen, Brookings, Lead, and Deadwood. Just this past week Roman Catholic Sisters of the Sioux Falls Diocese were fasting and praying for a moratorium on the nuclear weapons production.

Something important is happening here, as it is happening all over the country. More and more people are coming together in a grassroots movement to send a message to their leaders about the unacceptability of the nuclear arms race. What we are saying to you is not so different from what Thomas More told his sovereign four centuries ago. "We are the King's good servants, but God's first." I hope you will give some thought to this message. That you will take it back with you to your colleagues on the Senate Foreign Relations Committee, and that you will consider whether you ought to support a bilateral moratorium on the nuclear arms race. I very much appreciate the opportunity today to share with you the concerns and convictions of the people for whom I speak. Please accept this copy of the nuclear freeze petition completed today. Thank you Senators.

CALL TO HALT THE NUCLEAR ARMS RACE

Proposal for a Mutual US-Soviet Nuclear-Weapon Freeze

Today, the United States and the Soviet Union possess 50,000 nuclear weapons. In half an hour, all cities in the northern hemisphere can be destroyed. Yet over the next decade, the USA and USSR plan to build over 20,000 more nuclear warheads, along with a new "generation" of missiles to deliver them at long range.

To improve national and international security, the United States and the Soviet Union should stop the nuclear arms race. Specifically, they should adopt a mutual freeze on the testing, production and deployment of nuclear weapons and of missiles and new aircraft designed primarily to deliver nuclear weapons. This is an essential, verifiable first step toward lessening the risk of nuclear war and reducing the nuclear arsenals.

Either the United States or the Soviet Union could initiate movement toward the freeze by taking modest, unilateral steps that would: demonstrate its good faith, start movement in the right direction, and make it easier for the other country to take a similar step.

For example, either country could:

1. Undertake a three-month moratorium on nuclear test explosions, to be extended if reciprocated.
2. Stop further deployment, for a specified period, of one new strategic weapon or improvement of an existing weapon.
3. Draw up and publish comprehensive conversion plans for the nuclear facilities and employment that would be affected by a freeze, as a sign of serious commitment to the goal.

I ENDORSE THIS CALL FOR A U.S. - SOVIET NUCLEAR ARMS FREEZE: I ALSO SUPPORT THE UNITED STATES TAKING ONE OR MORE OF THE INDEPENDENT INITIATIVES LISTED ABOVE TO START MOVEMENT TOWARD THE FREEZE, AND ANNOUNCING WHICH INITIATIVE(S) IT HAS TAKEN AT THE U.N. CONFERENCE ON DISARMAMENT IN MAY OF 1982.

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Please return completed petition to:

South Dakota Peace and Justice Center
P.O. Box 405
Watertown, SD 57201

Senator PRESSLER. We thank you for your statement. Let me say that the depth of your convictions and feelings are very much appreciated. I think your statement speaks for itself, and I do not have any questions. Do you have any questions Senator Cranston?

Senator CRANSTON. I, too, would like to join in paying tribute to you for an act of courage and conscience for stating your convictions so very eloquently, and for your deep concern. I would like to ask you about the petition that you are seeking signatures for in one respect. In California there is a similar effort which is able to take an official act, because our State laws and constitution permit a referendum. So, a group in California is seeking signatures. They have achieved I think over 250,000 now. They need about 4,000 to place on our November ballot a question: Do you favor the Government making an all out effort to achieve a bilateral, not a unilateral, American alone, but a bilateral United States-Soviet freeze on nuclear weapon deployment and approve it beyond what we presently have? I think that is gathering a great deal of support. I announced my support for it at the hearing we had in San Francisco, and I simply wanted to ask you whether yours has any such end in mind that would give the people an opportunity to vote or can you do that in this State or is it simply an effort to get as many signatures as you can.

Mr. LANGLEY. This is the same kind of movement that is taking place in California. I would say that we are not as far along in our decision-making process as is happening in California, so we are not sure if a referendum will be the final goal. What we are contemplating at the present time is education of people and grass roots organizing, and then we will take our lead, I believe, from the people at the grassroots.

Senator CRANSTON. Regarding your position of withholding a portion of the income taxes, I simply would like to make a suggestion, that you consider from your point of view making that instead of what becomes really a unilateral request, that the Government stop now before a bilateral effort has been accomplished, that you take the position that if you choose to do that, that you will do so as long as the Government fails to seek a bilateral effort with the Soviet Union, because otherwise you are calling for unilateral disarmament which I think is not something that we are apt to achieve, and I don't think it is something we really should do in view of our security needs, but I strongly favor a multilateral effort or a bilateral effort in that regard, and I think there is much more chance of generating public support for a bilateral approach which is in accord with your signature effort and the drive in California, than a unilateral effort.

Mr. LANGLEY. We agree. I really have two problems with the nuclear arms race. The one is the policy as it exists, the second problem is my participation in the policy personally. My wife and I try to attack those two problems separately, but I agree that the bilateral approach is the one that has to be taken and we are doing so in the freeze campaign.

Senator CRANSTON. Thank you very much.

Senator PRESSLER. Well, in conclusion I would ask the people who have written statements to turn them in. We are running into time problems here. We have a flight at 4:35, which I think I am going to send Senator Cranston and Mrs. Cranston to catch, but I am going to be available for some case work for a period of time upstairs in the

Canton room. For those of you who came here, we have heard a wide range of views today. We will take back to Washington how strongly some of our people feel about arms control, but also convey the concern for a strong national defense. I personally disagree with the withholding of taxes. I believe strongly in the workings of the political process, but it illustrates the depth of some people's feelings. I am not going to argue about that with anybody here now, because we are to take testimony and we have done that.

Senator CRANSTON. If you can yield to me. I think I have to make plain that is also is my position. I cannot support the withholding of taxes. That does not mean I do not admire those whose consciences lead them to take that step. I believe we must all together, whatever our approach is, seek by every means to bring forcefully to the attention of the American people and to the action of our Government, steps that will end the arms race that will end us if we don't end it first.

Senator PRESSLER. When we proposed these hearings, Senator Percy was a bit concerned that outside of Washington arms control hearings wouldn't attract much attention but we have found in our three hearings very extensive interest and very thoughtful input. I think we can report back to him this has been very productive, and I want to thank Senator and Mrs. Cranston again for their terrific effort in being here. It is really outstanding with the kind of weather we have had.

Senator CRANSTON. If you can get here as frequently as I am sure you do, we can get here.

Senator PRESSLER. I want to thank all of you for participating, specially the witnesses, thank you very much.

[Whereupon, at 4:10 p.m., the subcommittee adjourned, subject to call of the Chair.]

APPENDIX

[From the Los Angeles Times, Jan. 15, 1982]

CIVIL DEFENSE PROGRAM TO BE REVIVED—REAGAN SEEKS TO COUNTER POSSIBLE ATTACK BY SOVIETS

(By Robert Scheer)

The Reagan Administration has decided to revive the nation's dormant civil defense program as part of its goal of attaining a "nuclear war-fighting capability" to counter the alleged threat of a Soviet nuclear attack.

The program adopted by the Administration, which would require substantial spending increases, claims to be able to save 80 percent of the American population in an all-out nuclear war with the Soviet Union.

In pushing for the program, President Reagan personally intervened to overrule his Office of Management and Budget staff and Air Force Gen. David C. Jones, chairman of the Joint Chiefs of Staff. OMB officials argued that the program had been planned hastily and could end up costing $10 billion in the next five years. Jones believed the money could be better spent on other defense items.

FIRST STAGE: EVACUATION

The new civil defense program, which in its first stage involves planning for the evacuation of the urban population from U.S. cities to primitive, anti-radiation fallout shelters in the countryside, was drawn up by the Federal Emergency Management Agency (FEMA), an independent federal agency.

The agency's plan at first was stalled by OMB objections and by expected congressional opposition. But the agency's director, Louis O. Giuffrida, who formerly headed a California anti-terrorist school, contacted presidential counsel Edwin Meese III, who enlisted President Reagan's support.

Reagan, who long has favored an expanded civil defense program, responded at a Dec. 3 National Security Council meeting by committing his Administration to the first major increase in funding for the civil defense program in two decades. The President spoke in favor of the emergency management agency's request after Meese called it an essential part of the Administration's strategic policy goals.

HAIG BACKED PROPOSAL

Jones, head of the Joint Chiefs of Staff, was the only member of the National Security Council to oppose the proposal. Both Deputy Defense Secretary Frank C. Carlucci, who represented the Pentagon at the meeting, and Secretary of State Alexander M. Haig Jr. strongly supported the civil defense proposal.

While the President backed the emergency management agency's request "in principle," the specifics were left to subsequent meetings of Administration budget committees that included Meese and OMB Director David A. Stockman. At that stage, the OMB critics effectively attacked the cost figures in the agency's proposals as unrealistic.

In particular, the agency had not accounted for the effects of inflation in the program's future years, OMB officials complained. Nor had the FEMA factored in the future costs of such key items as the cost of real estate for blast shelters, which are hardened steel-and-concrete underground structures built to withstand the impact of a bomb.

"They were going to put blast shelters in Manhattan, one critic scoffed, "and they just assumed that the cost of the land was insignificant."

The budgetary watchdogs succeeded in keeping the dollar commitment for fiscal 1983 to $237 million, an increase of almost 90 percent over the current year, and stipulated that the larger sums requested for future years would be debated dur-

ing this spring's review of the 1984 budget. One source deeply involved in the budget process predicted, that the ultimate cost of the program "could easily go over $10 billion if they end up going for blast shelters."

The commitment for fiscal 1983 is to a part of the agency proposal, called Program D, which involves only speeded-up planning for the evacuation of American cities and towns before a nuclear attack. Program D was developed during the Carter Administration but never acted on. More costly elements of the program, such as the construction of urban blast shelters to protect "key industrial workers" and the hardening of industrial sites to withstand nuclear explosions, were left to the 1984 budget.

"This plan was just sitting on the shelf and they dusted it off when Reagan came in," said one OMB official.

The agency's description of its evacuation program claims that it will reduce U.S. fatalities to 20 percent in the event of an all-out nuclear war. As the proposal said, "Performance in a large-scale, mid-1980s attack would be on the order of 80 percent survival of the U.S. population, if the bulk of the risk-area population had been evacuated to host areas prior to attack, and if fallout protection had been developed and other crisis action taken."

The notion that this goal can be accomplished is at the heart of the difference between those in the Reagan Administration who believe that nuclear war is survivable and their critics, mostly outsiders, who think nuclear war will lead only to mutual suicide on the part of the superpowers.

Civil defense is the talisman of those who believe that nuclear war is survivable and, what is more, that its consequences can be dealt with strategically, morally and politically in the same manner as conventional war. Those who deny that there is a fundamental difference between conventional and nuclear war assert that one can, through some act of ingenuity, defend against its ravages.

Civil defense proponents frequently compare the casualties suffered in Hiroshima to those incurred through the non-nuclear bombardments of Dresden or parts of the Soviet Union during World War II. There is the continued insistence that nuclear weapons may be larger but they are nonetheless like other weapons.

"You know, it's an enormous, gigantic explosion," said William Chipman, chief of the civil defense division in the FEMA, describing the effect that a bomb 100 times the power of the one dropped on Hiroshima would have on the city of Washington. "But it's still an explosion, and just as if a shell went off down the road, you'd rather be lying down than sitting up, and you'd rather be in a foxhole than lying down. It's the same thing."

The opposing notion, that nuclear weapons are fundamentally different from past conventional weapons in that a nation cannot hope to win anything through their use, tends to be viewed by key members of this Administration as the product of ignorance or fear.

Richard E. Pipes, now a member of the National Security Council staff, wrote in an article before joining the government: "A large part of the U.S. scientific community had been convinced as soon as the first atomic bomb was exploded that the nuclear weapon, which that community had conceived and helped to develop, had accomplished a complete revolution in warfare."

"AN ACT OF FAITH"

Pipes went on to deride that notion as "an act of faith on the part of an intellectual community, which held strong pacifist convictions and felt deep guilt at having participated in the creation of a weapon of such destructive power."

The belief in the survivability of nuclear war draws heavily on what is claimed to be the Soviet view of the subject. The Administration claims that the much larger Soviet investment in civil defense of $2 billion a year—as opposed to $125 million by this country—has given the Russians the hope not only of surviving but, indeed, winning a nuclear war against the United States.

But a 1978 Central Intelligence Agency report on Soviet civil defense noted that 75 percent of Moscow's civil defense budget represents manpower costs. The $2 billion is not what the Soviets actually spend, but an estimate of what it would cost them if they paid their troops on the same wage scale used by the United States—which they don't.

President Reagan long has seen civil defense as necessary to deterring the Soviets. In a February, 1980, campaign press conference in Montgomery, Ala., Reagan said the Soviet Union's leaders were convinced that a nuclear war with the United States "is not only possible, or survivable, but winnable" because of what he characterized as a multibillion-dollar Russian civil defense and underground shelter program.

GOP PLATFORM PLEDGE

The 1980 Republican platform pledged "to create a strategic and civil defense" which would protect the American people against nuclear war at least as well as the Soviet population is protected.

A healthy respect for Soviet civil defense underlies much of the Reagan Administration's analysis of the Soviet nuclear threat and of the President's plans for massive investment in the MX missile system and the B–1 bomber, weapons that are seen as essential to overcoming that threat.

In announcing the decision to go ahead with a modified MX missile and the B–1 bomber, Reagan last October included civil defense as part of the new strategic program.

The claim that U.S. land-based missiles are vulnerable to a Soviet first strike, as well as the acceptance of nuclear war-fighting as a plausible goal, are based on the assumption that casualties can be kept to an "acceptable" level in a general nuclear war. This presupposes that the Kremlin's civil defense program will be effective to the extent of providing the Soviets with acceptably low fatalities in the face of a U.S. retaliation.

That the Soviets believe this to be the case was argued by Pipes in a much publicized article, published four years before he became the National Security Council's senior Soviet expert. In that article, entitled: "Why the Soviet Union Thinks It Could Fight and Win a Nuclear War," Pipes criticized the policy of previous administrations:

"The U.S. theory of mutual deterrence postulates that no effective defense can be devised against an all-out nuclear attack. It is this postulate that makes such a war appear totally irrational. In order to make this premise valid, American civilian strategists have argued against a civil defense program, against the ABM (anti-ballistic missile) and against air defense."

Deputy Undersecretary of Defense for Strategic and Nuclear Forces T. K. Jones was another major contributor to this view of Soviet civil defense. Before joining the Reagan Administration, Jones worked for the Boeing Co. evaluating Soviet civil defense programs. In testimony before congressional committees, he advanced the notion that the Soviets consider nuclear war winnable because of their civil defense planning—and that the United States should plan likewise.

Jones has pushed hard within the Administration for a big civil defense program. In a recent interview with The Times, he stated that the United States would recover fully from an all-out nuclear war with the Soviet Union in just two to four years, if it had a Soviet-style civil defense.

SHOVELS ARE NEEDED

"Everybody's going to make it," he observed during the interview, "if there are enough shovels to go around." The shovels are needed, he said, to build primitive shelters in the countryside for the evacuated urban population.

Jones' idea is, "Dig a hole, cover it with a couple of doors and then throw three feet of dirt on top. It's the dirt that does it."

Like a number of people in the Reagan Administration, Jones has been associated with previous calls for the United States to develop a civil defense program comparable to that of the Russians. Now he speaks with the confidence of someone whose time has come.

But any effort to emulate the Soviet program is bound to run into the criticism of those who have studied the intelligence data and feel that the claims made for the Soviet program by Pipes and Jones are vastly exaggerated.

Marshall D. Shulman, the top Soviet expert in the Carter Administration, said recently, "Everything I have seen in the way of studies, both of the initial blast effect and the subsequent radiation effect, indicates that nothing representing our present societies or infrastructure or manner of living would be likely to survive it. Particularly, the long-term effects of radiation would make it difficult to begin the rebuilding process for a long time to come. That is true for the Soviet society, despite the rather limited civil defense program they've had."

TOTAL CATASTROPHE

Shulman, currently the director of the Russian Institute at Columbia University, added: "I see nothing in the Soviet literature that leads me to the conclusion that the Soviet leadership believes that a nuclear exchange would be anything less than total catastrophe. The civil defense program isn't that substantial. It is by no means of an order that would give the Soviet leadership confidence that they could substantially reduce their casualties, both their immediate casualties and their long-term casualties. They'd have to be out of their minds to think it would do that."

Walter B. Slocombe, who was deputy undersecretary of defense for policy planning in the Carter Administration and who recently debated T. K. Jones in four lengthy briefings for congressmen, remains skeptical of the claims made for the Soviets' civil defense program.

"I don't think the Soviet system works very well," Slocombe said recently. "He (Jones) thinks it works extremely well."

Slocombe added, "The idea that you are going to somehow fundamentally reduce Soviet vulnerability to a nuclear attack . . . directed against cities and industries by evacuating the cities, which is about what the plan is when you strip it of encumbering detail, is just fantastic."

His point is that it would take the Soviets, according to their own and Jones' estimates, a week to 10 days to evacuate their cities and that if the United States were interested in maximizing civilian casualties, it could simply retarget to hit the evacuated populations and their water, energy and food supplies.

The U.S. targeting plan, however, does not aim at increasing civilian casualties but rather at destroying industrial and military targets.

Jones concedes that the industrial targets are the vital concern as far as hoping for the recovery of society. But his studies conclude that the Soviets have an effective program for protecting key industrial personnel with shelters and for saving equipment by packing machinery in dirt.

While at Boeing, Jones attempted to follow the instructions of Soviet civil defense manuals by covering machinery with dirt and exploding TNT in the vicinity. He concluded that the Soviets' plans for evacuating their urban populations, packing dirt around factory machines and digging simple shelters covered by doors and dirt were highly effective.

As Jones put it: "The facts of the matter are that a one-megaton bomb dropped in Los Angeles is going to wipe out most of the people in a 75-square-mile area if we don't do anything to protect them. If we do, the lethal area is cut down to about two square miles."

As to the fate of a typical Angeleno outside the two-square-mile area, Jones replied, "His house is gone, he's there, wherever he dug that hole . . . You've got to be in a hole. The dirt really is the thing that protects you from the blast as well as radiation, if there's radiation. It protects you from the heat."

Slocombe responded: "I find it hard enough to believe evacuation scenarios (but) the burying in dirt and surrounding machine tools wih sandbags are even more fantastic. It is one thing to say that if people thought a nuclear war was coming and could somehow be convinced it would help, they would—in both countries—stream out of the cities, whatever their governments wanted them to do.

"And believe me, Americans would stream out of the cities just as well and just as far and to a much more attractive environment than would the Russians. But the idea that people would bury their industry in some useful way before they went—and there is no preparation for this, there is a certain amount of noise but there is not even an allegation that there is any serious preparation for that effort—it's just fantastic. I don't think you could improve on the CIA's conclusions on this subject."

"BUREAUCRATIC DIFFICULTIES"

The study to which Slocombe referred was the 1978 report compiled by the CIA which concluded that the actual performance of the Soviet civil defense system was somewhat less perfect than a reading of their manuals might indicate:

"Bureaucratic difficulties and apathy on the part of a large segment of the population have retarded implementation in the past, though, in wartime, such problems would probably diminish. A sustained effort has been made to provide

blast shelters for the leadership and essential personnel. Programs to protect industry by geographic dispersal have not been implemented to a significant extent, however, and there is little evidence of hardening of economic installations."

As to the claim by Jones and others that the Soviets actively have been dispersing their industry throughout the country to minimize the effects of bombing, the CIA report concluded: "Soviet measures to protect the economy could not prevent massive industrial damage. The Soviet program for dispersal of industry appears to be offset by a contrary tendency for investments in new facilities to be inside or near previously existing installations."

The CIA report specifically denied that the Soviets' civil defense measures would give them the confidence to launch a first-strike attack with the hope of winning a nuclear war, as Pipes and others in the Reagan Administration have argued.

"They (the Soviets) cannot have confidence, however, in the degree of protection their civil defense would afford them, given the many uncertainties attendant to a nuclear exchange," the report said. "We do not believe that the Soviets' present civil defenses would embolden them deliberately to expose the U.S.S.R. to a higher risk of nuclear attack."

Nor did the CIA feel that this uncertainty would lessen in "the foreseeable future."

Just what would be in store for the Soviets, at a minimum, was indicated in a recent report of the International Institute for Strategic Studies in London, which discounted the possibility that nuclear war-fighting could be limited or controlled.

The report's author, Desmond Ball, an authority on targeting plans, wrote that even if the United States followed its current nuclear targeting plan, which aims at military and industrial targets and avoids civilians, an unavoidably high number of civilians would nonetheless be killed.

"Simply by virtue of associated industrial and military targets, all of the 200 largest Soviet cities and 80 percent of the 886 Soviet cities with populations about 25,000 are included in U.S. war plans," Ball wrote. "Many of these cities would receive more than 10 warheads. Approximately 60 warheads would be detonated within the Moscow city limits; peak overpressures throughout the central Moscow area would be so severe that not a building or tree would remain standing."

RAVAGES OF NUCLEAR WAR

Ball added that, in addition to upward of 100 million dead and 30 million injured, such an attack would destroy 70 percent to 90 percent of Soviet manufacturing capacity.

Such estimates of the ravages of nuclear war, Ball warned, "are almost certainly underestimates of the actual casualties" because estimates "are invariably based on those variables (such as blast and fallout) that are relatively easy to calculate and generally ignore other effects that would surely take place but whose magnitude cannot be calculated."

Among those effects are the fire produced by the blast, death due to lack of medical care, long-term cancer deaths, and death caused by the destruction of crops and livestock. Ball estimated that when these other matters are factored in, the fatality figures could be double the 100 million his own study predicted.

A CIA analyst who helped prepare the agency's study on Soviet civil defense concurs in Ball's study. The analyst, who did not want to be identified, said: "We've looked at the blast and primary radiation effects. What we've done is nothing like what would be required to determine what the total effect on the (Soviet) population would be. We have not done that study because I don't know how you would do it. We've thought long and hard about how we'd do it and we don't know. There are too many imponderables. It isn't a modelable thing."

He then paused and added, "I get kind of tired of the issue after a while" because of the dreary imponderables.

Then he blurted out: "What's going to happen? They (the burn victims and others) aren't going to be helped. There are going to be thousands of people who needed assistance immediately, and it's not going to be available. And they're either going to die or they're going to linger on for a long time. The average level of activity in the society would be lowered significantly, to mere survival, to helping your friends and associates do what is necessary to keep on living. No one is going to be out there running lathes and rebuilding society . . . They're going to be dying."

[From the Los Angeles Times, Jan. 16, 1982]

AMERICANS WOULD NOT BE HELPLESS—U.S. COULD SURVIVE WAR IN ADMINISTRATION'S VIEW

(By Robert Scheer)

As tension increases between the superpowers, a macabre question is becoming central to a growing national debate over the implications of the nuclear arms race: Can the United States survive a nuclear war with the Soviet Union?

There seems to be an inclination, at least within the Administration, to look upon nuclear conflict as something less than a terminal holocaust (or the biblical prediction for Armageddon).

Statements about attaining a nuclear war-fighting capability, limited nuclear war, the development of tactical nuclear weapons and an increased emphasis on civil defense all assume that "nuclear war-fighting," as it has come to be known, is compatible with the continuance, after a brief and manageable interruption, of civilization more or less as we know it.

T. K. Jones, deputy undersecretary of defense for strategic and nuclear forces, told The Times that with proper civil defense, it would take only two to four years for the United States to fully recover from an all-out nuclear war with the Soviet Union.

The Federal Emergency Management Agency (FEMA), which is in charge of the U.S. civil defense program that the Reagan Administration plans to expand, has declared that "the United States could survive nuclear attack and go on to recovery within a relatively few years."

In columns and commentaries prepared for publication in local newspapers, the agency has argued that "Americans would not be helpless. . . . They could meet and overcome all the challenges of the post-attack environment" by taking such protective measures as evacuation of urban populations, survival training and the construction of simple fallout shelters.

William Chipman, chief of FEMA's civil defense division, likens what his agency calls "post-attack recovery" to the problems encountered in other major but survivable historical disasters.

He conceded that "there would be a succession of problems, a succession of hurdles to be surmounted." But then he pointed to a fatalities chart showing that most people would pull through. "When they figure fatalities, they figure it on the basis of your Crimean War medical care, which is to say, almost none," he observed on the chart's methodology.

"And yet, if I remember rightly, of the people who reached the so-called hospitals of the Crimea—they were more or less like sheds—I think 85 percent . . . eventually survived, essentially unaided, essentially prearrival of Ms. Nightingale."

His comments were directed at the increasing number of doctors who have organized in groups, such as Physicians for Social Responsibility, to call attention to the implications of nuclear war. Chipman took particular umbrage over testimony by Dr. Howard Hiatt, dean of the Harvard School of Public Health.

Hiatt told a Senate committee last year: "Recent talk by public figures about winning or even surviving a nuclear war must reflect a widespread failure to appreciate a medical reality. Any nuclear war would inevitably cause death, disease and suffering of epidemic proportions, and effective medical intervention on any realistic scale would be impossible."

Hiatt, who met recently with President Reagan as one of a group of emissaries from Pope John Paul II concerned about the possibility of nuclear warfare, noted in his Senate testimony that, after the Aug. 6, 1945, bombing of Hiroshima, most of the doctors in the city were killed or seriously wounded. Only six doctors were available to treat the 10,000 wounded who made their way to Hiroshima's 600-bed Red Cross hospital, Hiatt said.

There was eventually outside help for Hiroshima's wounded, which Hiatt argued would not be forthcoming in an all-out nuclear attack on the United States. Furthermore, he said, the size of the bombs dropped would be several hundred times larger.

Hiatt cited an Arms Control and Disarmament Agency study that postulated a one-megaton attack on the city of Washington. The result would be that of the area's 2.5 million inhabitants, more than 600,000 would be killed and 800,000 injured. Hiatt said he doubted there would be the one-week notice to evacuate the population on which Chipman and other civil defense officials base their projec-

tions. And because medical facilities and supplies are concentrated in the urban area, the surviving population would not be treated.

As Hiatt put it, somewhat rhetorically: "Can the seriously injured be treated at George Washington University Hospital? It no longer exists. Georgetown University Hospital? It, too, has been destroyed. In ruins, as well, are Howard University Hospital, D.C. General, Capital Hospital and several others."

The emergency management agency has conceded in one pamphlet that "a large-scale nuclear attack on the United States would cause great numbers of casualties, and there would be fewer doctors, nurses and hospitals available to care for them. Even in areas where no nuclear weapons exploded, radioactive fallout could prevent doctors and nurses from reaching injured or sick persons for a considerable period of time."

But the answer, the agency said, is that "people would have to help each other during the emergency" by depending upon their own knowledge of first aid.

The agency has also urged both adults and teen-agers to acquire these valuable skills by taking free courses that are offered in many communities, such as Red Cross first aid courses.

Further detail has been provided in another agency publication, which offers a seven-point plan for dealing with burn victims. It suggested giving the patient water and covering the burned area with dry gauze.

Because burn victims will be numerous, Hiatt does not find the agency manual's suggested care adequate.

"Let me cite one reason for my pessimism by describing the case of a 20-year-old man who was hospitalized last week in the burn unit of Boston's Massachusetts General Hospital," he said. In the first eight days of hospitalization, this patient needed 102 units of fresh frozen plasma, 42 units of fresh-frozen red blood cells and 12 units of platelets to compensate for losses from the burned areas. He had two four-hour operations, each requiring four surgeons, two anesthetists and several nurses. He was on a respirator constantly and required highly specialized nursing care around the clock. Many professionals and technicians in other hospital departments were constantly called upon."

Hiatt quoted the head of the burn unit as saying that "just to keep one such patient alive taxes us." Hiatt added, "No amount of preparation could provide the human physical resources required for the care of even a few such patients hospitalized simultaneously in any city of the nation. Yet one must assume that at least tens of thousands of such casualties would result in every metropolitan center hit by a nuclear weapon."

Mass deaths also would present hazards to the survivors. Physicians argue that pestilence, for example, would be a problem even if tens of millions should manage to survive the effects of the initial blast, fire and radiation.

Dr. Herbert L. Abrams of the Harvard Medical School suggested in a report last month to the American Association for the Advancement of Science that "insects, many of which have an unexplained immunity to radiation, would thrive on the unburied corpses, infest surviving animals and, eventually, man."

He predicted the resurgence of diseases such as the plague, cholera, smallpox, and typhoid, not to mention a huge increase in influenza, pneumonia, meningitis, and hepatitis.

The position of the emergency management agency is quite the opposite. A pamphlet supplied by Chipman assures readers that "the specter of pestilence and disease stalking the land in the aftermath of nuclear war is probably just that—a specter, not a realistic probability. It need not, and probably would not, occur."

The agency's position is that the major scourge diseases have been eradicated and cannot return. Because knowledge of sanitation and vaccines is widespread, the agency assumes that the survivors would be able to employ this to good advantage.

"Even under the worst circumstances imaginable," said a pamphlet called "Recovery from Nuclear Attack," there would be "no danger of a repetition of the bubonic plague that devastated Europe in the mid-14th Century."

The bubonic plague is a source of considerable optimism to Chipman, who observed, "It was horrifying at the time, and yet six or eight years later, not only had English society rebounded but, by God, those people went out on an expeditionary force to France."

Chipman's optimism is typical of the literature that FEMA has produced over the years.

"Would Survivors of Nuclear Attack Envy the Dead? . . . Experts Say 'No.'" That question and its answer headline one of 15 "camera-ready newspaper columns" the agency currently distributes for placement in local papers.

Most of the columns deal with the details of surviving the holocaust, such as the construction of a "preplanned snack bar shelter (Plan D)" in one's basement which can double as an entertainment center before the attack and, it is hoped, after.

Some of the columns would be useful in everyday emergencies, such as the "special advice on tourniquets" that cautions that, "If the situation forces use of a tourniquet to keep the patient from bleeding to death (for example, when a hand or foot has been cut off), place the tourniquet as close to the wound as possible, between the wound and the patients' heart."

But clearly one is not going to get too involved with the techniques of surviving a multi-megatonnage attack unless there is a positive answer to the original question of whether the survivors would envy the dead.

Chipman noted darkly that it was none other than the late Soviet Premier Nikita S. Khrushchev who first articulated that view of nuclear survivors. The agency takes issue with the pessimists.

As one agency publication says: "In the face of the awesome power of nuclear weapons, the emotional response to the question of whether the living would envy the dead often is, 'Yes.'" But data and conclusions drawn from complex and sophisticated studies do not support that view.

"A close look at the facts shows with fair certainty that with reasonable protective measures, the United States could survive nuclear attack and go on to recover within a relatively few years."

To which civil defense director Chipman added a personal prediction: "It's very depressing and horrible on the one hand, but if worse ever came to worse, I think people would be miserable, but they would in all probability rise to the occasion and restore some kind of a country that would fairly be called the post-attack United States. No one would ever forget what had happened, and I hope to God if it ever happened once, it would never happen again."

Asked if he thought that democracy and other American institutions would survive, Chipman replied: "I think they would eventually, yeah. As I say, ants will eventually build another anthill."

[From the Los Angeles Times, Jan. 21, 1982]

Civil Defense: Who Needs It?

This country has had a civil-defense program of sorts for 30 years. Except for a brief spurt of interest by President Kennedy in shelter-building, however, proposals for an ambitious nuclear-survival program have never been taken seriously by the government or by the American people.

As Times staff writer Robert Scheer reported last Friday, however, some officials in President Reagan's Pentagon are determined to change all that.

The Administration has in fact made a tentative decision to ask Congress for a near-doubling of the civil-defense budget to $237 million in the next fiscal year. If the zealots in the Pentagon and the federal Emergency Management Agency have their way, this would be only the first installment in a multibillion-dollar program aimed at ensuring the survival of 80 percent of the American people from a large-scale nuclear war.

We urge the President to take a closer, more skeptical look before he goes too far down that road.

Several countries—including Switzerland, Sweden and China—have civil-defense programs far more extensive than the United States. The renewed interest in this country is largely a reaction, however, to the massive population-protection program in the Soviet Union.

The Soviet program includes shelters, "hardening" of manufacturing plants to reduce damage from blast and radioactivity, and plans for the evacuation of cities. Instruction in civil-defense procedures are given in factories and schools.

Some military strategists draw the conclusion that the Soviet Union is reaching for the ability to initiate, win and survive a nuclear war. What seems more likely is that the Kremlin is as frightened of nuclear war as the rest of us are—but is determined that, if such a war shou'd come, the Soviet system and the greatest possible number of Soviet citizens should survive.

In either case, the champions of a strong civil-defense argue, the United States would leave itself exposed to nuclear blackmail if it allowed a situation to develop

in which this country stood to lose half its population in a nuclear conflict while the Russians would lose only 5 percent or 10 percent.

Thus the Emergency Management Agency with the backing of civilian officials in the Pentagon, is pushing for a program featuring construction of urban blast shelters, hardening of industrial sites and plans for the evacuation of cities if a nuclear conflict seemed imminent.

A case can be made for beefing up the civil-defense program to the extent of surveying and marking basements and other facilities that could be of practical use as shelters; building up emergency stores of food, water and medical supplies, and conducting a public-information program to familiarize people with the things they could do to help their chances of nuclear survival.

We remain unpersuaded, however, that the plans for an ambitious evacuation and shelter-construction program are practical.

Expert opinion is divided on whether the big Soviet civil-defense program would actually be effective in an hour of need. The fact that billions of rubles are being spent doesn't necessarily mean that the Russians are getting their money's worth.

Pressures are growing in this country for a reduction in planned military spending. Every extra dollar that goes for civil defense is a dollar less that can be spent on other military needs. This is why Gen. David C. Jones, chairman of the Joint Chiefs of Staff, opposes a costly civil-defense effort.

Beyond that, building enough shelters to protect urban dwellers who were not incinerated in the initial blast would be prohibitively expensive, while large-scale evacuation plans simply make no sense.

Evacuating large cities would take several days. In the tense, confrontational atmosphere that presumably would prevail, the Soviet Union might well assume that the evacuation was a prelude to a U.S. nuclear attack. It might feel impelled, in that event, to get in the first blow.

If the day ever comes when an effective antiballistic missile defense system can be deployed within the framework of arms-control agreements with the Soviet Union, the case for an ambitious nuclear shelter program will be stronger. The ABMs would thin out the attacking missiles and make the civil-defense job more manageable.

Until then, the money can be better spent on arms that will keep the Russians persuaded that they would suffer intolerable losses in a nuclear conflict, notwithstanding their big shelter and evacuation programs.

[From the Sunday Mercury News, Jan. 17, 1982]

CIVIL DEFENSE?

Along with Hula Hoops, Davy Crockett caps and Levittown, the backyard fallout shelter was one of the prime targets of social satirists during the late 1950s and early 1960s. A bit more macabre than the other fads of the era, perhaps, but on the whole harmless, and good for a few laughs.

Friday morning's story by Robert Scheer of the Los Angeles Times evoked memories of the fallout shelter mania and the mentality that created it. This time, though, we don't hear anybody laughing.

According to Scheer's account, the Reagan administration has decided to revive the nation's program of civil defense against nuclear war, dormant for two decades. The Federal Emergency Management Agency has developed, and the White House reportedly has approved, a complicated and costly scheme calling for mass evacuation of urban populations to radiation shelters in the countryside.

The FEMA plan reportedly met strong opposition from the Office of Management and Budget because of its cost—the ultimate price tag has been put as high as $10 billion—and from Air Force Gen. David C. Jones, chairman of the Joint Chiefs of Staff, who felt the money could be better spent elsewhere. But, according to Scheer, President Reagan personally overrode those objections.

A FEMA spokesman would neither confirm nor deny that the White House has endorsed the plan, but he acknowledged that his agency has been pushing the mass-evacuation idea since the 1960s. The plan is built, he said, on "the premise that there would be no Pearl Harbor-type nuclear attack" and people would have several days to move out of urban areas.

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"Performance in a large-scale, mid-1980s attack would be on the order of 80 percent survival of the U.S. population," the proposal says, "if the bulk of the risk-area population had been evacuated to host areas prior to attack, and if fallout protection had been developed and other crisis action taken."

Those are some pretty hefty "ifs."

Assuming that the Soviets would be polite enough to give us several days or even several hours' notice of their attack seems to push credulity to new frontiers. And anybody who has crept from San Jose to Palto Alto during the morning rush hour can form some notion of what it would be like to try to move the whole population of the Bay Area to, say Mendocino County amid the terror that a nuclear attack warning would create.

There are a few other sizable ifs that the proposal doesn't even seem to consider.

For instance, even if a mere 20 percent of the population was killed outright in a nuclear exchange—about 40 million dead, let's say—what would happen to the survivors? What would they eat, what would they drink, what would they do for medical care, how would they dispose of 40 million corpses?

As we've all seen in recent weeks just a few inches of rain can totally disrupt a metropolitan area's transportation and communications systems. What kind of shape can we expect those and other components of the social network to be in after the H–bombs hit?

One more thing to think about: Many scientists believe that any major nuclear exchange would destroy the earth's ozone layer, letting in ultraviolet radiation that would blind all land-dwelling creatures and thus, in a matter of weeks or months, bring an end to life on earth as we know it. The survivors of nuclear war might emerge from their radiation shelters to find a dead or dying planet.

A massive civil defense program against nuclear attack is an ideal that every president from Eisenhower on down has considered—and rejected as lunacy. Maybe FEMA has just dusted off its shopworn idea and peddled it to a hawkish and slightly gullible administration. The whole affair might be nothing more than bureaucratic empire-building—expensive, but essentially harmless.

But a far more frightening interpretation is possible. Many of the pronouncements and many of the strategic weapons decisions of the Reagan administration seem to indicate that it thinks the United States could fight, survive and win a nuclear war. The new emphasis on civil defense can be read as another—and an exceedingly ominous—signal of the same thing.

We aren't sure—nobody is sure—exactly what the civil defense proposal means, we plan to explore that question with people who know more than we do, and we'll share with you what we learn. We are sure of this much. There's nothing in Scheer's story to make us, or any American, feel more secure.

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U.S. and Soviet Approaches to Military Strategy: Theory vs. Experience*

(By Roman Kolkowicz)

Soviet and American approaches to strategic problems in the nuclear era appear to be similar: the military technologies are similar; both sides generally understand the qualitative and quantitative aspects of the other's weapon systems; and both sides have been engaged in protracted diplomatic and technical negotiations on strategic arms limitations, with certain mutually acceptable results. Yet, the two countries diverge sharply on many fundamental issues regarding the uses, limitations, and purposes of military power as well as the rules of the game that are to govern it. This divergence, often disregarded by Western technical experts is of vital importance to our understanding of profound misperceptions along the whole range of strategic and political issues inherent in the superpower relationship.

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Traditional Soviet and American approaches to the use of military force in pursuit of national objectives are fundamentally at odds. Lying at one end of the spectrum, the instrumental, strategic, and highly politicized Soviet approach contrasts sharply with the more emotional, apolitical, and moralizing American approach. One might suggest that Machiavelli and Clausewitz are the intellectual and spiritual models of the Soviets, while the American tradition has its roots in an early Puritanism and a more recent democratic liberalism.

The roots of modern American strategic theory and doctrine lie in the scientific spirit of the Enlightenment and in the optmistic tradition of democratic liberalism, which envisaged man's ability to control, manage, and order conflict by rational scientific and technological means. This tradition was reflected in the words of the English theorist W. Lloyd: "The general who knows these things can direct war enterprises with geometrical precision and lead to a continual war without ever getting into the necessity of giving battle." [1] More recent aspects of this tradition are embodied in the positive and optimistic premises of systems analysis and crisis management and in the vast literature on deterrence.

The traditional American approach to the use of military force has been pugnacious, but not "cunning and premeditated; rather it is a romantic impulse that erects boldness and initiative into patriotic tenets, but only in response to provocation." [2] George Kennan saw this trait as wrathful righteousness: "Democracy fights in anger—it fights for the very reason that it was forced to go to war. It fights to punish the power that was rash enough to provoke it—to teach that power a lesson it will not forget." [3] Until very recently, American policymakers have "looked on war and peace as two distinctly separate states. War has been viewed not as a continuation of policy but as a failure of diplomacy. . . . The American response to war has been to view it as the use of force in a great moral crusade in which there is no room for the deliberate hobbling of American power." [4]

This American tradition was challenged by events in the post-World War II period, particularly by the dismal war in Korea. It was further challenged by the rise of modern deterrence strategists, who rarely if ever asked questions about ethical or normative values, being preoccupied instead with problems of efficiency and economy in the application of force toward a given end. Modern American strategists began to aspire to realpolitik, asserting the "principle that military power should be subordinated to national policy, and that the only legitimate purpose of military force is to serve the nation's political objectives." [5]

The challenge and eventual rejection of earlier American tradition was considered necessary for two reasons. First, although "the practical necessity of military power [is] obvious to Americans today," it is not sufficiently obvious because "military power does not automatically translate into national security." [6] Second, when military policy and strategy lack limited and attainable objectives and become, in effect, ends in themselves, they cease to be controllable and predictable instruments of national policy.

These challenges eventually resulted in a new American "tradition," a radically different approach to the uses of military power. The evolution of various theories, doctrines, methods, and models of conflict and warfare, under the general heading "deterrence," emptied American strategic thought of much of its political and ethical content, yielding abstract metaphors, deductive theories, and conflict management techniques—a veritable science of warfare. Much of this activity, however, was focused on one type of war and on methods for its avoidance; namely, an all-out nuclear war between the two superpowers and their alliance systems.

Western perceptions of Soviet approaches to the use of force for political purposes are usually couched in terms of opportunism, deception, and flexibility: "The Kremlin has no compunction about retreating in the face of a superior force . . . Its main concern is to make sure that it has filled every nook and cranny available to it in the basin of world power." [7] William Kaufmann saw the Soviet Union and its allies as "notorious practitioners of violence"; military

[1] Quoted in H. Rothfels, "Clausewitz," in Edward Mead Earle, ed., *Makers of Modern Strategy* (New York: Atheneum, 1966), pp. 99–100.
[2] Robert E. Osgood, *Limited War: The Challenge to American Strategy* (Chicago: University of Chicago Press, 1957), p. 34.
[3] Kennan, *American Diplomacy*, 1900–1950 (New York: Mentor, 1951), p. 59.
[4] Morton H. Halperin, *Limited War in the Nuclear Age* (New York: John Wiley & Sons, 1963), p. 19.
[5] Osgood, *Limited War*, p. 46.
[6] Ibid., p. 14.
[7] Kennan, *American Diplomacy*, 1900–1950, p. 53.

means in Soviet hands, he added, "have been a highly flexible instrument of policy." [8] Robert Osgood maintains that the "communist approach to war and the use of military power is as notable for its fusing of power and policy as the American approach is notable for its dissociation of power and policy." [9]

If on the American side we witness a rejection of certain political and moral traditions, which are assumed to be unsuitable for this sinful world or at least unsuitable for a superpower, this was not the case on the Soviet side. In the Soviet Union there exists an unswerving, doctrinal, and political tradition that goes back to Clausewitz, via Engels and Lenin, and reaches into the present via Stalin and his successors.

The Soviet tradition has different origins. One of its key progenitors is Clausewitz, who "rejected both the optimism and dogmatism of the eighteenth century theory" [10] and held that war was neither a scientific game nor an international sport, but an act of violence: "We do not like to hear of generals who are victorious without the shedding of blood" because this leads to an underappreciation of the terrible nature of war and might lead to a condition whereby "we allow our swords to grow blunt . . . until someone steps in with a sharp sword and cuts our arms off our body." [11] Clausewitz was known, with good reason, as one of the "Mahdis of Mass" who gave theoretical justification to the "rage of numbers" and identified the "idea of war with that of utmost violence." [12]

In the Soviet Union, the spirit of Clausewitz lives on. His ideas permeate contemporary Soviet military theories and defense policies. Party leaders find the Clausewitz dictum that "war has its grammar but not its own logic" [13] most useful in legitimating political primacy over military professionalism, since the logic of politics also governs war. The other famous Clausewitz dictum, that was is merely a continuation of politics by others means, has regained full acceptance; after a two-decade period of debate and vacillation, Clausewitz' ideas have again made war rational, thinkable, and winnable. Even some of Clausewitz's earlier works on the military art have been recently rediscovered by the Soviet military and used to rationalize and justify proposals for the offensive mobile type of theater warfare, with or without the use of nuclear weapons.[14] In short, current Soviet military doctrine has fully regained its "object":

Since war has its origins in a political object, we see that this first motive, which called it into existence, naturally remains the first and highest consideration to be regarded in its conduct. . . . Policy will therefore permeate the whole action of war and exercise a continuous influence upon it . . . for the political design is the object, while war is the means, and the means can never be thought apart from the object.[15]

Accordingly, Clausewitz maintained that war can never be separated from politics and that, should such a separation "occur anywhere, all the threads of the different relations become in a certain sense broken and we have before us a senseless thing without an object." [16]

Clausewitz found avid readers and attentive students among the Marxists and that Bolsheviks. Engels, probably the most sophisticated student of military affairs among them, wrote to Karl Marx, "I am now reading Clausewitz On War," which he found to be "a strange way of philosophizing, but very good on the subject." Engels went on to define the essential Marxist (and Soviet) approach to military power and war, as distilled from Clausewitz: "Fighting is to war what cash payment is to trade, for however rarely it may be necessary for it actually to occur, everything is directed towards it, and eventually it must take place all the same, and must be decisive." [17] A recent Soviet volume on military strategy brought this tradition into the contemporary realm: "In his remarks on Clausewitz' book Vom Kriege, V. I. Lenin stressed that 'politics is the guiding force, and war is only the tool and not vice versa.' " [18]

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[8] William W. Kaufmann, ed., *Military Policy and National Security* (Princeton, N.J.: Princeton University Press, 1956), p. 102.
[9] Osgood, *Limited War*, p. 46.
[10] Rothfels, "Clausewitz," p. 100.
[11] Ibid.
[12] Ibid., p. 93.
[13] Carl von Clausewitz, *On War* (Combat Forces Press, 1953), p. 16.
[14] See V. Ye. Savkin, *The Basic Principles of Operational Art and Tactics*, trans. and ed. under the auspices of the U.S. Air Force (Washington: GPO, n.d.), pp. 22–23.
[15] Clausewitz, *On War*, p. 16.
[16] Ibid., p. 596.
[17] Quoted in Earle, ed., *Makers of Modern Strategy*, p. 158.
[18] Marshal of the Soviet Union V. D. Sokolovskii, *Soviet Military Strategy*, Rand edition (Santa Monica, Calif.: Rand, 1963), p. 98.

Another Soviet-Russian tradition is reflected in Tolstoy's War and Peace. Prince Andrey, on the eve of the Battle of Borodino, says: "War is not a courtesy but the most terrible thing in life; and we ought to understand that and not play at war. We ought to accept this terrible necessity sternly and seriously. It all lies in that: get rid of falsehood and let war be war, and not a game." [19] Leon Trotsky, the founder of the Red Army, aptly expressed another Soviet view on war: war "bases itself on many sciences, but war itself is no science, it is a practical art, a skill, a savage and bloody art." [20] He would approvingly quote the Clausewitz maxim that "in practical arts one should not drive the flowers and foliage of theory too high, one should rather keep them close to the soil of experience." [21] This sobering admonition by the great philosopher of war is particularly relevant to our study.

PROBLEMS OF CONCEPTUAL DEFINITION

To the Western strategic analyst, Soviet writers on strategic and military problems behave like scholastics, adhering to obscure formulations of questionable relevance to the serious study of war and strategy. To Western deterrence theorists, the public formulations of Soviet strategic and limited-warfare concepts and doctrines appear peculiarly simplistic, anecdotal, tautological, and "soft" in relation to the logically impeccable, tightly reasoned Western theories of deterrence and limited war. They find Soviet military writings to be excessively politicized and historical as well as subordinated to the given values and whims of political elites; their primitive and "unsophisticated" approaches exasperate Western analysts. That exasperation is reflected in the remarks of the American editors of Soviet Military Strategy by Marshal V. D. Sokolovskii: "Nowhere in this book, as in most Soviet literature as well, are there to be found signs of serious professional interests in concepts like controlled response and restrained nuclear targeting, which have been widely discussed in the West." The editors seem discouraged by a persistent "these of automatically [sic] of global nuclear war," which they interpret not only as serving to reinforce the credibility of Soviet nuclear retaliation "but also to discourage the United States and its allies from entertaining ideas that ground rules of some sort might be adopted for limiting the destructiveness of a war, should one occur." [22]

This Western exasperation with Soviet strategic analysis is reciprocated with equal force: Soviet military and political analysts dismiss much of Western strategic and limited-war theory as pretentious pseudo-scientific, and even metaphysical: "The idea of introducing rules and games and artificial restrictions by agreement seems illusory and untenable. It is difficult to visualize that a nuclear war, if unleashed, could be kept within the framework of rules and would not develop into an all-out war. In fact, such proposals are a demagogic trick designed to reassure public opinion." [23] The authoritative volume Marxism-Leninism on War and Army [24] vigorously rejected as "a cynical and deliberate falsehood" the idea that "the prudence of the opponents will make it possible to coordinate their nuclear targets against which these weapons would be aimed." A distinguished Soviet military strategist, General N. Talenskii, expressed the Soviet position clearly: "When the security of a state is based on mutual deterrence with the aid of powerful nuclear weapons rockets, it is directly dependent on the goodwill and designs of the other side, which is a highly subjective and indefinite factor." [25]

Soviet analysts find Western strategic sophistries objectionable and unacceptable on several grounds:

(1) The Apolitical Nature of Western Military Doctrines: In effect, politics is subordinated to the more narrow technological and bureaucratic imperatives and to the abstract notions of game theory and formal logic. A recent Rand study assessed this problem quite realistically:

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[19] Quoted in Osgood, *Limited War*, p. 33.
[20] Quoted in Isaac Deutscher, *The Prophet Armed* (Oxford: Oxford University Press, 1976), p. 482.
[21] Ibid.
[22] See the introduction to Sokolovskii (fn. 18, above) by H. S. Dinerstein, Leon Gouré, and Thomas W. Wolfe, pp. 44–45.
[23] G. D. Arbatov, *Problemy mira i sotsializma*, no. 2, February 1974, p. 46.
[24] Moscow: Progress Publishers, 1972, p. 100.
[25] Talenskii, "Anti-Missile Systems and Disarmament," in John Erickson, ed., *The Military Technical Revolution: Its Impact on Strategy and Foreign Policy* (New York: Institute for the Study of the USSR, 1966), pp. 225–227.

"American strategic thinking—born predominantly of civilian defense specialists bearing legal, technical and distinctly non-military intellectual outlooks—is deeply rooted in the proposition that nuclear war is unwinnable in any practical sense . . . it has also produced an increasingly predominant belief that deterrence stability (hence U.S. security) is best served by a strategic environment of mutual vulnerability. The Soviets reject "mutual vulnerability" out of hand as an abdication of political responsibility.[26]

The study goes on to describe insistent Soviet disavowals of such Western strategic ideas as demonstration attacks, limited nuclear operations, and slow-motion counterforce duels, treating such American conceptualizations of strategic issues "with alternating bemusement, perplexity and sarcasm." [27] Marshal Grechko shares this Soviet view of "bourgeois military theorists who propagate quite a different viewpoint" from that of communist military analysts, and he is troubled by the fact that Western military theorists "regard war as a mere armed clash between the two sides . . . in other words, they emasculate the political content of the concept of war." [28]

(2) *The Status Quo-Supportive Nature of Deterrence and Limited-War Theory and Its Corollaries:* A recent Western critical study of deterrence observed that "deterrence is a policy which, if it succeeds, can only frustrate an opponent who aspires to changing the international status-quo." Although the consequences of continuous frustration of expansionist and anti-status quo aspirations are not easily predictable, the study concluded, they are nevertheless "not necessarily benign." [29] Soviet analysis frequently attack what they perceive as this pernicious Western attempt to impose their own rules of the political and strategic game upon socialist countries and on countries in the Third World that are trying to free themselves from colonial or imperialistic shackles: "The development of a new international situation more favorable to the cause of peace in no way signifies an interruption of the strenuous and sharp struggle which Soviet policy is waging. There are no pauses in international relations just as there is no rest in the struggle which accompanies their development." [30]

Marshal of the Soviet Union N. I. Krylov claimed that "the imperialists are trying to lull the vigilance of the world's peoples by having recourse to propaganda devices to the effect that there will be no victors in a future nuclear war. These false affirmations contradict the objective laws of history." [31] General Bochkarev asserted that "Marxist-Leninists are not panicked in the face of the terrifying danger created by imperialism nor do they depict it as a prelude to the end of the world." [32] And General P. Zhilin has stated that détente and deterrence, implicit in peaceful coexistence, neither rule out war nor imply stable peace: "That is why all the talk about an end of the era of wars and the arrival of an era of universal peace is premature and dangerous." [33]

A recent Rand study has asserted that "the center of gravity of Soviet doctrinal discussions is decidedly hostile to this way of thinking," and that the Soviets pay "no homage whatsoever to the abstract concept of stability" assumed in the West under the concept of a "*mutual* assured destruction relationship." [34] Generally speaking, moreover, the concepts of "equivalence" and "balance" are seen as "unnatural" by the Soviets because they imply "the enshrinement of the status quo, something alien to every known tenet of Soviet political, ideological and historical doctrine." [35]

(3) *The Interdependent, Controllable, Mutually Balanced, and Self-Constrained Nature of Western Doctrines of War:* Soviet analysts are particularly skeptical of Western claims with respect to the ability to control, limit, and "fine tune" the applications of force in war. They question claims to omniscience, omnipotence,

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[26] See Benjamin S. Lambeth, "The Political Potential of Soviet Equivalence," *International Security*, Fall 1979, p. 27.
[27] Ibid., p. 31.
[28] A. A. Grechko, *The Armed Forces of the Soviet Union* (Moscow: Progress Publishers, 1977).
[29] Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy* (New York: Columbia University Press, 1974), p. 5.
[30] Editorial, *Kommunist*, June 1972.
[31] Marshal of the Soviet Union, Chief of the Strategic Missile Forces N. I. Krylov, "The Instructive Lessons of History," *Sovietskaia Rossiia*, August 30, 1969.
[32] Quoted in Leon Gouré et al., eds., *The Role of Nuclear Forces in Current Soviet Strategy* (Miami: Center for Advanced International Studies, 1974), p. 61.
[33] Zhilin, "The Military Aspects of Détente," *International Affairs* (Moscow), no. 12, 1972, p. 25.
[34] Jack L. Snyder, *The Soviet Strategic Culture: Implications for Limited Nuclear Operations* (Santa Monica, Calif.: Rand, 1977), p. 18.
[35] Lambeth, "Political Potential of Soviet Equivalence," p. 28.

and ubiquity of cool reason and rationality that are implicit or explicit in many Western studies on limited war. As the Rand study indicated, "If there is little convergence in Soviet and American writing on deterrence, there is even less complementarity in their statements on limited strategic war." [36]

Soviet analysts are particularly vehement in questioning and rejecting sweeping claims on limited war: "To lull the vigilance of the peoples, the U.S. militarists are discussing the possibility of limiting nuclear war." The Soviets deny the idea that prudent opponents will coordinate their nuclear strikes and thus limit the targets, thereby keeping material losses and human suffering at a minimum.[37] Soviet analysts find this idea unappealing, for they would have to "rely on the chance that the aggressors will be prudent and will impose certain limits on the use of nuclear weapons." [38]

In Western parlance, limited war presupposes certain kinds of cooperation, coordination, constraint, and self-denial by the belligerents. The United States has evolved several military doctrines premised on such cooperative and interdependent constraints, while the Soviet Union remains adamant in resisting such notions and prefers unilateral and independent modes of military initiative. The Soviets find curious and unrealistic the notion that limited war would remain contained, would resist escalatory pressures, and would terminate through "intrawar bargaining." A survey of Soviet writings on the controllability of escalation and the possibility of limitation in nuclear conflict indicates "no Soviet acceptance of restraint once that threshold has been crossed." [39] Hence, they have not come far from their earlier, rather dogmatic assertion, as expressed by Defense Minister Marshall Malinovskii, that "no matter where a tactical atomic weapon might be used against us, it would trigger a crushing counterblow." [40]

In the past, the Soviets have had particular difficulty formally accepting the idea of limited warfare, especially limited nuclear warfare. Soviet political leaders have gone on record as opposing this idea because of the generally unpredictable consequences of escalatory pressures. Khrushchev, Brezhnev, and others have at various times reiterated the proposition that "global wars are known to have started from local wars" and that because of the "rapid development of military technology, it will be even more difficult to put any limits on armed conflict if this conflict starts in any single region." [41]

The unorthodox character of limited war is complicated by its implicit logic and rules: "While the enemy must be fixed and hit hard on the battlefield, and if possible deterred from expanding the scope and intensity of the conflict, he must also be allowed to extricate himself from his adventure without a serious loss of prestige or substance. The conditions of limited war require the maintenance of a delicate balance between firmness and tolerance." [42] This unorthodoxy and its peculiar characteristics have troubled Soviet military and political leaders, notably with respect to the use of nuclear weapons. Stressing inherent contradictions in the logic and rules of limited war as depicted in Western strategic literature, the Soviet authors of the authoritative study Soviet Military Strategy assert: "By its character, a limited war contains two problems: on the one hand such a war must be conducted decisively and with the best methods using the necessary forces and means to achieve the set political and military goals; on the other hand, in a limited war, the armed forces must be used in such a way as to reduce the risk of a limited armed conflict escalating into a general war to a minimum." [43]

The Soviet strategists raised questions about fundamental Western assumptions concerning the conduct of limited war, arguing that "little is known about the effectiveness of this [nuclear] weapon on the battlefield, of the possible political, military and psychological consequences of its use." They also maintained that Western assertions about the control, effect, and consequences of battlefield tactical-nuclear weapons were based on questionable assumptions:

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[36] Snyder, *Soviet Strategic Culture*, p. 19.
[37] *Marxism-Leninism on War and Army*, p. 99.
[38] Ibid., p. 100.
[39] Benjamin S. Lambeth, *Selective Nuclear Operations and Soviet Strategy* (Santa Monica, Calif.: Rand, 1975).
[40] Quoted in Thomas W. Wolfe, *Soviet Strategy at the Crossroads* (Cambridge, Mass.: Harvard University Press, 1965), p. 123.
[41] *Marxism-Leninism on War and Army*, p. 98; also see Wolfe, *Soviet Strategy at the Crossroads*, chap. 10.
[42] Kaufmann, ed., *Military Policy*, p. 127.
[43] V. D. Sokolovskii, ed., *Soviet Military Strategy*, ed. and trans. by Harriet Fast Scott, 3rd ed. (New York: Crane, Russak, 1975), p. 68.

"It is extremely difficult to foresee how an enemy will react to the very fact of the use of a tactical nuclear weapon, even on a limited scale." Moreover, the reactive options available to the other side are many, ranging from no retaliation at all, to a limited nuclear retaliatory strike, or even, through miscalculation, to a much greater response with "strategic and operations tactical means, thus unleashing an all-out nuclear war." The Soviet strategists also stressed the great difficulty of distinguishing between a tactical and a strategic weapon merely from its operational use, and the possible false signals of miscalculations in response. The problem of delivery for tactical-nuclear weapons complicates the limited-war calculus even more. The Sokolovskii volume concluded with a rather skeptical assessment of the chances of keeping limited war really limited and not having it explode into nuclear holocaust: "In spite of all these theories and concepts, one can state with assurance that the strategy of limited warfare based on the use of only tactical nuclear weapons will involve the dangers analogous to those connected with the strategy of 'massive retaliation.'" [44]

This Soviet concern about keeping limited war limited was also shared by many in the West. The problems of escalation control and threshold observance were widely discussed in the professional literature without ever quite resolving the issues or allaying the fears. Thomas C. Schelling represented a consensus when he described the Korean War as having set "patterns and precedents that have affected, and will affect the conduct of limited war and the planning for it"; [45] but, he warned, it "may be only one possibility, one pattern, one species of a variegated genus of warlike reactions," no more a model "of what limited war really is than the first animal the Pilgrims saw reflected the wildlife of North America." [46] Schelling urged the consideration of certain restraints and thresholds that would provide limits in warfare. Among the limits and thresholds he discussed were "no nuclears," which is "simple and unambiguous," while "some nuclears would be more complicated." There is "a simplicity," he said, "a kind of virginity, about all-or-none distinctions that differences of degree do not have." Among the other ultimate thresholds he described were a direct battlefield confrontation between Soviet and American troops and observance of the national boundaries of the United States and the Soviet Union, thus keeping "the homelands of the two major adversaries inviolate." [47] Schelling saw these thresholds as finite steps in the enlargement of war or toward a change in participation: "They are conventional stopping places or dividing lines. They have a legalistic quality, and they depend on precedents and analogy." [48] Some of these thresholds have been held up at the "ultimate limit"—the last stopping place before all-out war—yet Schelling considered none of them to be "sacrosanct." [49]

The idea of limited war in the nuclear context began to gain acceptance and support in the West during the 1950s. Its proponents had to overcome the resistance of the "don't rock the delicate balance-of-terror, nuclear-deterrence boat" thinking of that period. In the shadow of the bomb, under assumed conditions of a very unstable balance of terror, war—even limited war—was considered unthinkable, particularly if it were to involve a confrontation between the two major nuclear powers. The critics of limited war marshaled many strong arguments against it. It was likely to undermine the strategy of deterrence because making the use of force, particularly nuclear force, "thinkable" or acceptable would weaken the necessary self-restraint implicit in deterrence. Moreover, if it were assumed that force could be applied in controlled, managed, and revocable ways, leaders would be tempted to use it at an assumed low cost and risk. The critics argued that endowing the use of military force in the nuclear era with political utility would undermine deterrence and motivate some leaders to exploit it for specific instrumental purposes. They asserted that the calculus of limited war and its assumed logic presupposed rational and reasonable decisionmakers on both sides. This assumption was considered to be not only highly questionable but also very dangerous in the event of wartime escalatory pressures, which might very well lead to a catastrophic "explosion" rather than the desirable "expansion." In general, then, limited war was fraught with too many uncertainties and risks to be a viable policy premise.[50]

However, several developments in the 1950s suggested possible merits and utilities of limited war. First, the rigidities and low credibility of massive-retal-

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[44] Ibid., p. 69.
[45] Schelling, *Arms and Influence* (New Haven, Conn.: Yale University Press, 1957), p. 130.
[46] Ibid., p. 158.
[47] Ibid., p. 159.
[48] Ibid., p. 133.
[49] Ibid., p. 157.

iation doctrine created an enormous disparity between ends and means that would very likely paralyze the political will to act. This argued for greater flexibility and closer congruence between the threats perceived and the applied or implied use of retaliatory force. Second, the Korean War experience reinforced the argument for flexibility in order to avoid getting bogged down in ground warfare in remote and disadvantageous areas of the world. Third, it was argued that the availability of more options would relax the tense either/or confrontation in a crisis and thus enhance the stability of deterrence.

From the ensuing strategic debate in the United States emerged a sense of what limited war, with or without the use of nuclear weapons, implied as well as a rudimentary sense of its conceptual and theoretical aspects. The term "limited war" has become identified with several kinds of restraints and limitations upon the conduct of hostilities. Robert Osgood defined such war in general terms, as "a war fought for ends far short of the complete subordination of one state's will to another's and by means involving far less than the total military resources of the belligerents, leaving the civilian life and the armed forces of the belligerents, largely intact and leading to a bargained termination." [51]

It became apparent that unlike the sharp and satisfying definitions of strategic deterrence, limited-war theory confronted great difficulties precisely because the limitations are contingent upon judgments, defined by degrees, and seen from different perspectives. Nonetheless, there is general agreement in Western thought that the following list comprises the parameters of limited war:

1. *Wars That Are Limited in Geographic Scale, in Contrast to "World Wars":* The Korean, Vietnam, and Middle Eastern wars fall into this category. One problem here has to do with "coalition wars," which may be limited in one sense but may be geographically dispersed.
2. *Wars That Are Limited in Their Objectives:* The objectives could be territorial or political, but fairly specific and perceived by all sides to be so.
3. *Wars Fought with Limited Means:* The belligerents deliberately "hobble" themselves by the quality of weapons and technology employed. The Korean War is an example; both sides had access to nuclear weapons but practiced restraint.
4. *War in Which the Belligerents Limit Themselves to Certain Targets, Deliberately Avoiding Other Available Targets.*

This description of limited war and its parameter is more a normative model—an ideal type, what ought to be—than a reflection of historical reality. While some of the conflicts in recent decades fall within these parameters, others do not, and still others fit different conceptual or analytic rubrics. The Soviet and other communist typologies and categorizations of war, moreover do not quite conform to those of the West.

The official Soviet position on types of warfare has not changed much in recent decades, although informally there have been some significant changes (to be described later in this paper). The formal Moscow view, reflected in a variety authoritative statements and studies, may be summarized as follows:

I. *According to Their Sociopolitical Character:*
   1. Wars between opposing social systems
   2. Wars between imperialist and formerly colonial systems
   3. Civil wars between the proletarian masses and the bourgeoisie
   4. Wars between capitalist states

II. *According to Their Scale:*
   1. World wars between two opposing systems
   2. Local wars between two or more countries
   3. Wars of national liberation [52]

In practice, the Soviets distinguish among three types of war: (1) *world war* between the two superpowers and their coalitions devastating both countries through massive salvos of strategic-nuclear weapons in counter force and countervalue targeting modes; (2) *limited wars* not involving the superpowers directly but fought with their indirect involvement, with or without nuclear weapons; and (3) *local wars*, or wars of national liberation in the Third World, that re-

[50] Halperin, *Limited War in the Nuclear Age*, p. 64.
[51] Osgood, *Limited War*, p. 47.
[52] The Soviets, like other communists, also classify all wars as just or unjust wars. Unjust wars are those initiated by the capitalists against progressive countries and forces in the world; just wars are those conducted by progressive forces in revolutionary, national-liberation, and anti-imperialist struggles. Though the Soviets have at all times been concerned with escalatory spirals and pressures in war, and have warned of the danger of even small and local crises getting out of control and exploding into total nuclear war they have nevertheless retained the just (national liberation) war formula for ideological and political reasons.

main nonnuclear, conventional, and contained in scope, targets, weapons, and objectives.

It is clear by now that there are several fundamental disparities between Soviet and American approaches to strategy, foreign policy, and the uses of force in pursuit of the national interest. The main reason for the persistence of these conceptual, perceptual, and doctinal disparities lies in the asymmetrical nature of the two belief systems and in cultural, historical, and political factors. We are dealing with two orthodoxies, mutually exclusive by their nature, each claiming a monoply on "scientific" truth.

At the root of the problem lie different perceptions with respect to deterrence and to the uses of force in a nuclear context. Deterrence theory is a uniquely American construct, shaped by certain historical, political, institutional, and idiosyncratic influences and circumstances of the post-World War II period. Deterrence was conceived in its modern sense when it became possible to threaten vast damage and pain while leaving opposing military forces intact. The atomic bomb that ended World War II and the bipolar international system that emerged after the war provided the conditions for modern deterrence theory: "the former made deterrence necessary and the latter made it possible." [53]

The problem with U.S. deterrence theory has been an excessive reliance on deterrence threats and alliance commitments as the primary tool of foreign policy vis-a-vis the Soviet Union, a tool that by the mid 1950's had become an inflexible response to almost any perceived communist encroachment. In effect, the specifically American nature of deterrence tended to "reinforce policy makers" tendency to rely too heavily on deterrence strategy and deterrence threats in lieu of the more flexible instruments of inter-nation influence associated with classical diplomacy." [54]

A fundamental flaw of deterrence was that it became theoretically most developed and practically best applied to acute bipolar conflicts where great values were at stake and where the potential for great violence was high. At the same time, this led to a proverty of theoretical and doctrinal development with respect to conflict below the strategic and bipolar level, resulting in the forced application of strategic-deterrence doctrine to conflict at lower levels on the threat scale: "This attempt to extend the applications of flexible response into the lower portion of the spectrum is exactly analogous to the earlier attempt to extend, through massive retaliation, the applications of strategic deterrent forces into the next lower portion of the spectrum, to try to deter limited war." [55]

Military theory and doctrine remained rooted in the American tradition—as if trying to bend the laws of warfare in the nuclear era to conform to American preferences, namely: the massive use of strategic rather than conventional or tactical forces; the substitution of technology for manpower because of the high value of human life; the unhobbled use of military force in war; punitive warfare against a despised enemy, coupled with an insistence on "unconditional surrender"; primacy of military considerations once warfare begins; a clear resolution and conclusion of all wars; and avoidance of entangling ground warfare in "remote areas" of the world.[56] Because World War II and, to a lesser extent, World War I reinforced these American preferences (not necessarily realities), it seemed sensible to extend them into the postwar period, specifically to relations with the communist world. Thus, the classic American model of war and the strategies for dealing with it may be characterized as a direct confrontation between the two superpowers and their respective alliances, along a central confrontational axis in Europe, across NATO and Warsaw Pact territories, according to clearly demarcated rules, and with the communications and signaling characteristics so highly regarded by deterrence purists. This situation was perceived as a bipolar, either/or confrontation, which by the very nature of its terrifying threat and terrible consequences would militate against a suicidal initiation of hostilities by the communists and thus validate the logical theoretical content and political utility of deterrence strategy. We might call this a "cowboy strategy," reflecting distinctly American preferences, styles, and values. It also reflected a set of very practical concerns and preferences, since this scenario was premised on U.S. advantage and Soviet disadvantage: we had the strategic and nuclear trump cards, and the Soviets did not.

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[53] George and Smoke, *Deterrence in American Foreign Policy*, p. 20.
[54] Ibid., p. 7.
[55] Ibid., p. 45.
[56] It is ironic that American preferences were largely unfulfilled and that U.S. troops in effect became bogged down in Asian lands (Korea and Vietnam) where strategic preponderance meant little in the conduct or outcome of either war.

The U.S.S.R., however, did not comply with American deterrence theories, preferences, or fantasies. Instead of confronting the United States and NATO directly and frontally in the European theater, the Soviets chose to probe, feign, and challenge the United States and its allies in areas remote from Europe. Moreover, the Soviet challenge was undertaken indirectly by proxies and allies. One might say that Soviet military and political behavior reflects a "commissar strategy," which is essentially nonconfrontational or, more properly, confrontation-avoiding under poor conditions of Soviet advantage and control. This strategy is largely manipulative, deceptive, theoretically inelegant, methodologically "unsophisticated," and shrouded in ambiguity. It is a strategy of confrontation and negotiation, one that rejects the stark American either/or deterrence (either stable peace or nuclear incineration) for Moscow's own neither/nor deliberativeness (accepting neither the imperatives of a perfectly stable peace and an atrophied international political process not the alternative of nuclear suicide). The Soviets view strategic doctrine as a highly politicized means-ends *process*; this contrasts sharply with the American ends-means *teleology* of Armageddon avoidance.

In the end, deterrence strategy is logically and politically suitable to a conservative, status quo, balance-of-power state have no territorial designs but with widespread and vital international economic interests; a power enjoying strategic superiority and whose traditional values favor minimal involvement in remote areas; a power that has historically relied on technological and economic means for implementing its foreign policy. It is a policy for dealing with a troublesome and dangerous, but weaker, adversary by launching terrible threats of punishment in order to appeal to the bully's sense of survival.

Soviet strategy is suited to a quasi-revolutionary, expansionist power whose interests lie in changing the international status quo. It is an appropriate strategy for a power that emerged on the international scene after World War II as a strategic inferior and whose traditions favor the brute force of mass armies, guided by defense continental strategies and possessing defensive coastal navies, a country having little experience in massive projection of its forces beyond the Eurasian land mass. It is the strategy of a country with universal ideological and global political interests and claims, but a country, also, that is not in a hurry, believing that history and time are on its side.

Deterrence may have been a suitable strategic theory and doctrine for the United States during its period of ascendancy in international affairs. America enjoyed clear strategic superiority and a supportive society whose internal goals were in harmony with the external policy goals of the state. It confronted a Soviet Union whose leadership was divided, whose allies were restless and unreliable, and whose military capabilities were both inadequate and inferior to those of the West.

Times have changed. The Soviet Union is now a military power at least the equal of the United States and has moved from its continental, defensive military position to that of a global superpower. Soviet strategic doctrines have shown themselves to be more flexible and adaptable than those of the West. While the United States has remained largely committed to deterrence strategy and its variations—despite profound changes in international and regional policies—the U.S.S.R. has shown an interest in experimenting with various strategic formulations in order to fit strategy to policy and ever-changing political and technological circumstances. At present, Moscow's strategy is double-edged: (1) a strategic-nuclear force for the primary purpose of deterring and thus neutralizing the West and (2) flexible and powerful engagement in the vulnerable and vital areas of the Third World, using conventional general-purpose forces.

The United States remain fixated on "deterrence" and various assured-destruction scenarios. Recent efforts to provide flexible, rapid-deployment forces capable of hitting pressure points along the Soviets' southward expansionist trajectory are still too incomplete to evaluate properly. U.S. positions on theater-nuclear forces and doctrines in Europe are causing NATO allies much discomfort.[57] The much-vaunted flexible-options policy (resting on such notions as control of escalation through threshold recognition and target distinctions, willingness to compete in pain endurance and risk taking, and war termination through intra-war bargaining) is not much of an improvement and falls short in credibility.[58] The recent Presidential Directive 59 represents a shift away from the MAD

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[57] See Uwe Nehrlich, "Theatre Nuclear Forces in Europe: Is NATO Running Out of Options," *Washington Quarterly*, Winter 1980.

[58] Snyder, *Soviet Strategic Culture*.

doctrine of "city busting," but still limits itself to a central war context. Thus, in the event of a central war, the United States would concentrate on "hard" targets rather than cities. PD 59, then, does not bear on limited wars as seen in the Soviet context and to be discussed in this paper. It deals essentially with collateral damage limitation in a central war: a concept that is still roundly rejected in Soviet military literature.

Recent Soviet expressions of interest in the feasibility of limited and local war, together with systematic preparations for such contingencies, may reflect Moscow's strategic-doctrinal maturity. The Soviets clearly understand that in the nuclear era, major powers need the security of a credible strategic-nuclear deterrent force before they can safely adopt limited-war doctrines and policies. The reason for this lies in the logic of deterrence and limited war. To remain limited, wars involving the major powers, whether directly or indirectly, need credible fallback reserves: a strategic (assured-destruction) retaliatory threat that will both act to reduce escalatory pressures and provide boundaries. Espousal of limited war without such a credible retaliatory threat would leave the state open to manipulation and blackmail, a situation analogous to a strategic context in which one side lacks a credible, survivable second-strike capability. In recent years, the Soviets have fulfilled the necessary criteria: they have built a powerful and credible nuclear deterrent and a huge, modernized general-purpose force.[59]

SOVIET APPROACHES TO THE USES OF FORCE: CONTINUITY AND CHANGE

In 1970, I made the following statement to the U.S. Senate Committee on Foreign Relations:

"We would want first to examine certain entrenched Western beliefs and misapprehensions about the Soviet Union and U.S.-Soviet relations.

"Among these beliefs are:

—that we can bleed them to death economically, by forcing them to keep up with us in an intensive arms race

—that we can still attain meaningful strategic superiority

—that we can expect an internal political and social upheaval in the Soviet Union or in the communist bloc.

"I would suggest that such beliefs are unrealistic and to some extent wishful thinking. It may be more realistic to assume that:

—the Soviet Union is going to continue its arms program, if necessary to ensure strategic equality

—the Soviet Union is not seriously interested in first strike or surprise attacks on the United States

—the Soviet Union is interested in stabilizing the expensive arms race and would seek to avoid confrontations with the United States in areas of vital interests.

—*but that, the Soviet Union is also going to selectively probe in the soft areas of the world for opportunities and expansion, regardless of the SALT outcomes.*

"Thus, while SALT is a desirable Soviet objective, it is not the one-and-all objective of Soviet policy. As a member of fact, one would argue, that Soviet interests in SALT, while presumably realistic and serious, are part of a larger policy for the seventies. The postulated objectives of the Soviet policy are:

—*hold* and stabilize their Western flank (NATO, U.S.) through SALT, European Security Conference, etc.

—*obtain* greater freedom to deal with China (and also prevent a two-front confrontation)

—*explore* opportunities south of Russia, via a capillary expansion in the regions of Middle East, Mediterranean, and North Africa.

"Such a policy is seen by many Soviets as one of low risks, low costs, and potential high payoffs; while a continued confrontation and arms race with the West is seen as one of high costs, high risks and low payoffs." [60]

Nothing that has happened since would motivate me to change the foregoing assessment of the Soviet military and political calculus. In fact, the Soviets seem to have followed that projection closely. Moreover, there is little reason to think they will depart from that policy line significantly in the coming decade, since the "alignment of political forces around the world" reflects current Soviet perceptions and assessments.

When he was Soviet Minister of Defense, the late Marshal Grechko stated: "We have never concealed the basis of Soviet military doctrine. . . . the principles and details of the doctrine are clearly expressed in the policies of

[59] See V. M. Bondarenko, *Kommunist vooruzhennykh sil*, December 1968.
[60] Submission by Roman Kolkowicz to Senator Gore, April 15, 1970.

the Communist Party and the Soviet Government and in the state of our Armed Forces." In fact, he continued, they are "fully reflected in our manuals and regulations." Grechko also stressed the fact that Soviet doctrine, "particularly its military art, adapts itself to the times" and becomes "amended and developed according to the alignment of political forces in the world and policy pursued by the State." [61] Even though they are somewhat self-serving, there is little reason to contest Marshal Grechko's statements. We will therefore examine the current realignment of political forces, the derivative opportunities and challenges to the Soviet state and its interests, and the adaptation of Soviet military doctrine to those changes. In brief, we shall explore the implications of the Soviet Union's achievement of strategic parity the subsequent relaxation of strictures against the feasibility and utility of limited and local war (particularly in the regions south of Russia), and the modernization of and changes, in Soviet doctrines on limited war.

In the mid 1960s, Thomas Wolfe observed that "the relatively meager treatment customarily given in Soviet literature to the question of conducting limited warfare is in marked contrast to the attention bestowed on general nuclear war." [62] Wolfe believed that, until the mid 1960s, this fact reflected a pre-eminent Soviet concern about the contingency they feared most (massive nuclear attack) and about the rapid or even automatic escalatory possibilities inherent in local or limited war. He found signs, however, that the Soviet doctrinal position on local and limited war was already undergoing some change. Although ambiguity and inconsistency still characterized Soviet treatment of the subject, and although no unifying doctrine of limited war had evolved there was less rigidity with respect to the problem of escalation in local conflict.

Since the mid 1960s, the Soviet position has undergone substantial changes in doctrine, capabilities, and perceptions. Though still formally adhering to the earlier, ideologically correct position—which rejects the callous and deliberate use of military power, except in "just wars"—Moscow has appraised the implications of the changed correlation of power in the 1970s and 1980s. By the late 1960s and during the 1970s, Soviet analysts publicly began to consider the implications of the coming Soviet achievement of nuclear parity. A debate ensued, both in open and classified Soviet literature (recalling the strategic debates of the 1950s and 1960s), over the proper roles of nuclear and conventional forces in war. The voice of the more conservative advocacy was heard, but the authoritative and sophisticated position of the realists appears to have prevailed and set out the new Soviet position: "In our times conditions may arise when in individual instances combat operations may be carried out using conventional weapons. Under these conditions the role of the conventional means and the traditional services of the armed forces are greatly enhanced. It becomes necessary to train troops for various kinds of warfare." The author, a well-known military analyst, then proceeds to argue against those who would interpret such renewed emphasis on conventional forces and limited warfare as a "negation of the contemporary revolution in military affairs," that is, as negating or reducing the role of tactical-or even strategic-nuclear weapons. He dismisses those backward views ("one cannot agree with this opinion") and then lectures his more obtuse colleagues: "The point is that the new possibilities of waging armed struggle arisen *not in spite of, but because of the nuclear missile weapons.* They do not diminish their combat effectiveness, and the main thing, they do not preclude the possible use of such weapons." [63]

The point is well taken. Soviet doctrine and policy in the past decade have followed this reasoning closely. In effect, it means a loosening of the strictures against theater warfare, with or without nuclear weapons, and the endowment of vital military and political roles to conventional forces, in consonance with the alignment of political forces in the world. This new emphasis on conventional forces and the possibility of limited and local war with those forces is evident, too, in the Soviet defense minister's recent statement that "there has been a great improvement in the fire, shock and maneuver capabilities of troops," making it possible to "assign them very decisive missions on the battlefield which they are capable of accomplishing without resorting to nuclear weapons." [64]

In the past decade, the U.S.S.R. has been realigning its foreign policy and military doctrines in the triadic mode described above: their massive nuclear capa-

[61] Grechko, *The Armed Forces of the Soviet Union*, pp. 273–274.
[62] Wolfe, *Soviet Strategy at the Crossroads*, p. 118.
[63] Lt. Colonel V. M. Bondarenko, quoted in Harriet Fast Scott and William F. Scott, eds., *The Armed Forces of the USSR* (Boulder, Colo.: Westview Press, 1979), p. 55.
[64] Quoted in Joseph D. Douglass, *The Soviet Theater Nuclear Offensive*, vol. 1 of *Studies in Communist Affairs* (prepared for the Office of the Director of Defense Research and Engineering, Net Technical Assessment), p. 113.

bilities are to neutralize and stabilize their relations with the West; their theater forces, both nuclear and conventional, are to enhance deterrence but also to provide a war-fighting capability in Europe and Asia should deterrence fail; then conventional forces are to serve as the vital military and political element in Moscow's new expansionist policies in the Third World. This Soviet appreciation of realistic targets of opportunity in the Third World is reflected in many statements, including the following: "the outcome of the historic battle between socialism and capitalism largely depends on how the revolutionary movement will develop in the nonsocialist world and what path the nations liberated from colonial oppression will follow." [65]

The new opportunities for socialist exploitation in the Third World endow Soviet conventional forces with several important roles, including the possibility of fighting local wars. The central role of these forces is admitted by the American author of a recent Pentagon study on Soviet theater-nuclear warfare. Douglass states that although the study "began as an analysis of the Soviet nuclear threat to NATO . . . it became apparent . . . that the real heart of the Soviet threat has been and still is, the ground forces, particularly the tank armies and combined arms armies." [66] Thus, even though in the European context Soviet doctrine envisages the use of nuclear weapons in theater warfare, "the heart of the Soviet concept is in reality not the initial nuclear barrage, but rather what might be called the exploitation forces." These are essentially conventional forces, trained and equipped to operate in a nuclear environment, but very much concerned with maintaining their "capability to fight" and not becoming "excessively dependent on nuclear weapons."

Turning to the Third World, Douglass finds that conventional forces and weapons, and their modes of employment in local wars, "appear to be regarded as a principal mechanism to be exploited by the Soviet Union in expanding their influence and hegemony." Since these areas appear to hold the greatest promise for Soviet exploitation, and since the Western strategic deterrence forces play a marginal role in such areas, the Soviets feel that their military doctrine for these areas is sound.

The use of conventional forces in support of Soviet expansionist pressures in the Third World makes good sense. Soviet exploratory policies and tactics remain prudent and cautious and are essentially rather nonprovocative and provocation avoiding. The various roles of Soviet conventional forces, as seen by Moscow, include the following: protector and patron of anti-Western regimes (Afghanistan, Syria, South Yemen, Ethiopia, Iraq, Angola, and Libya) as a means of building influence in those regions; supplier of expertise, training, weapons, and intelligence to Soviet clients and proxies. As was indicated by the head of the political organs of the Soviet military, "the Soviet Union's ability to give assistance to the working people waging a revolutionary liberation struggle and the volume of this assistance have become greater still in the present conditions." [67]

In sum, Soviet limited-war and local-war doctrines, based on parity in strategic-nuclear capabilities, reflect the U.S.S.R.'s current and foreseeable political-military interests. This suggests that the Soviets will continue to improve, modernize, and enhance their strategic, theater, and local warfare capabilities. The new global mission of the Soviet military, premised on a strategic-nuclear shield of massive deterrence forces and a more flexible and politically viable conventional and theater-nuclear sword, was well described by Marshal Grechko: "At the present stage, the historic mission of the Soviet Armed Forces is not restricted to their function in defending our Motherland . . . but [includes support of] the national liberation struggle in whatever distant region of the planet it may appear." [68]

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[65] Quoted in Gouré et al., eds. *The Role of Nuclear Forces in Current Soviet Strategy*, p. 62.

[66] Douglass, *The Soviet Theater Nuclear Offensive*, p. 46.

[67] General A. A. Epishev, *Some Aspects of Party-Political Work in the Soviet Armed Forces* (Moscow: Progress Publishers, 1975). V. M. Kulish offers another view on the global mission of the Soviet armed forces: "Greatest importance is being attached to Soviet military presence in various regions throughout the world, reinforced by an adequate level of strategic mobility of its armed forces. . . . In those cases wherein support must be furnished to those nations fighting for their freedom and independence against forces of international reaction and imperialist interventions, the Soviet Union may require mobile and well-trained and well-equipped forces. . . . Expanding the scale of Soviet military presence and military assistance furnished by other socialist states [i.e., proxies] is being viewed today as a very important factor in international relations." (From *Voennaia sila i mezhdunarodnoe otnoshenia* [1972] quoted in Scott and Scott, eds., *The Armed Forces of the USSR*, p. 57.)

[68] Grechko, "The Leading Role of the CPSU in Building the Army of a Developed Socialist Society," *Problemy istorii KPSS*, May 1974.

Soviet foreign policy objectives and military doctrine have converged. Since the mid 1960s, Soviet foreign policy has pursued three primary goals—(1) stabilized relations with the West (2) containment and isolation of China, (3) exploration and expansion in the Third World, generally in the areas south of Russia—and Soviet military doctrine has become congruent with these objectives. The Soviet strategic-nuclear shield is to provide stable deterrence with the West; limited-war doctrines and forces, with or without nuclear weapons, are to provide additional deterrent and war-fighting capabilities on the primary, contiguous flanks of the Soviet Union (Europe and Asia); and the conventional, projective capabilities are to provide the cutting edge and the persuasive presence in support of expansionist and exploratory policies in the Third World. This triadic orientation of Soviet foreign and military policy makes large claims on Soviet resources, manpower, and managerial-political talent; however, the Soviets seem persuaded that their time has come and that the costs and risks entailed are tolerable when measured against prospective gains. Contemporary Soviet military thinking can be seen as based on a parry-and-thrust concept. Vast nuclear forces serve as the deterrent against Western strategic-nuclear forces, while general-purpose forces serve to probe and thrust into vulnerable and soft regions whose strategic, political, and economic value is of overriding importance to Moscow.

In order to explore the Third World for targets of opportunity, the Soviets first had to neutralize American strategic preponderance and create credible deterrent and war-fighting forces on their two most exposed and endangered flanks; NATO Europe and China. At great costs in manpower and weaponry, the Soviets have achieved these objectives and, in the process, have stirred up deep suspicions in the West and in China. The primary Soviet expansionary path, however, lies neither in Europe nor in China, but south of Russia, particularly in the Persian Gulf region, the Middile East, and Africa.

The Soviets are convinced that the political payoff will come from a prudent and preferably indirect use of their conventional forces in the Third World, rather than from their politically inert strategic-nuclear deterrent. This view has been expressed by one of the most influential Soviet analysts: "It has become clear that this [nuclear] might is becoming progressively less usable as a political weapon"; therefore, the "sphere of applicability" of such weapons "for rational political ends is inexorably shrinking." [69] This, of course, is not to denigrate the decisive "holding back" functions of the Soviet strategic-nuclear force, without which the conventional and theater forces would become meaningless. Having obtained strategic deterrence, though, the Soviets can press on with the tempting (and now less risky) game of southward expansion. The Soviets have turned out, after all, to be adept students of the West's deterrence strategists, who have been asserting for some time that the more stable the strategic deterrence, the greater the willingness and freedom to risk using lower-level forces for political ends.

The Soviets have rediscovered the wisdom and relevance of their long-dead revolutionary strategists, Marshals Tukhachevskii and Frunze, who preached a gospel of warfare that included these concepts: (1) highly mobile, deep-thrust, airborne-offensive operations, not along a broad straight-line front (à la Stalin) but at selected points along enemy lines; (2) the use of surprise, secrecy, deception, and pre-emption; (3) a vital role for armor, artillery, and mechanized infantry, which are indispensable for high mobility, surprise, troop dispersal, and target-denial (these last being particularly relevant in a nuclear battlefield environment). These aspects of revolutionary warfare are being updated and used in Soviet military training and doctrinal modifications.[70]

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[69] G. A. Arbatov, in *World, Marxist Review*, no. 2, February 1974, p. 56.

[70] See Savkin, *Basic Principles*, pp. 22–23. It is interesting to compare contemporary Soviet views on the vital importance of nonstrategic forces with Soviet views in the early 1960s. Announcing the new Soviet military doctrine in January 1960, Khrushchev rationalized massive reductions of Soviet conventional forces as follows: "Our state has at its disposal powerful rocket equipment. The military air force and navy have lost their previous importance in view of the modern development of military equipment. . . . In our time the defense potential of the country is determined, not by the number of our soldiers under arms and the number of persons in naval uniform . . ." (Quoted in Roman Kolkowicz, *The Soviet Military and the Communist Party* [Princeton, N.J.; Princeton University Press, 1967], p. 151.) Note, also, Khrushchev's candid outburst, printed in Pravda on September 22, 1964, just about one week prior to his ouster: "When I went out onto the training field and saw the tanks attacking and how the antitank artillery hit these tanks, I became ill. After all, we are spending a lot of money to build tanks. And if—God forbid, as they say—a war breaks out, these tanks will burn before they reach the line indicated by the command."

The dominant motive force of Soviet political and military action is dialectical: the compelling "push to the utmost" derived from Clausewitz is moderated by the restraining Leninist caveat regarding the avoidance of "adventurism." This Bolshevik yin-yang combination provided the parameters for the inherently aggressive and expansionistic tendencies during the long formative period of Soviet Russia, a period marked both by perceptions of outside threat and by military inferiority and insecurity. However, the powerful restrainst of the Leninist admonition against adventurism (and the risk of losing it all through high risk and foolish gambles) are eroding. The Soviets feel less threatened and more powerful, and they sense that the Western capitalist countries are less than monolithically unified.

There is little doubt that the Soviets are committed to gradual, nonprovocative but sustained exploration of vulnerable areas in the Third World as targets of opportunity. They are building the forces, weapons, and technologies needed to project Soviet influence and power into these areas during this present decade. Their doctrines, operational and tactical guidelines, and training programs are in harmony with these objectives.

The Soviet Union has practiced confrontation avoidance whenever a direct clash with the other superpower seemed imminent. In the 1980's the situation will have changed drastically, since the Soviets are at least as powerful as the United States and since the theaters of the most likely confrontations are logistically accessible. Given the American traditions described above and given the newly acquired Soviet might, a confrontation between the two superpowers in Asia, the Persian Gulf, the Middle East, or Africa would have very ominous implications. In an eyeball-to-eyeball confrontation, the Soviets are not likely to blink first. It is not unreasonable to say that the superpowers are headed for a possible collision in the 1980s.

AUGUSTANA COLLEGE,
Sioux Falls, S. Dak., January 26, 1982.

Senator LARRY PRESSLER,
U.S. Senate, Washington, D.C.

DEAR SENATOR PRESSLER: Thank you very much for Monday's Hearing on Disarmament at Augustana College. It was an excellent opportunity to receive grassroots opinions. Very helpful testimony was presented.

I also wish to share written testimony. I talked with my friend Kent Scribner immediately after the hearing. Kent advised me that additional written testimony would be accepted for one week.

I hereby request that the enclosed "Proposal for International Disarmament" be entered into your Subcommittee's record to assist you in your deliberations. This proposal was given on May 19, 1981, when Ambassador Kennan received the Albert Einstein Peace Prize. You are surely aware of Dr. Kennan's high reputation as a diplomat and a scholar—and as a person of intimate knowledge of Russia. That he speaks from a "realistic" perspective adds credibility to this proposal for genuine security. I commend it highly.

Perhaps Mr. Kennan's statement has already been entered into your record and is informing your decisions. In any case, please give it your most careful consideration.

Cordially,

DUANE L. ADDISON,
Professor of Religion.

A PROPOSAL FOR INTERNATIONAL DISARMAMENT

George F. Kennan

George F. Kennan made the following address in accepting the Albert Einstein Peace Prize on 19 May 1981 at the Marriott Hotel in Washington, D.C. Preliminary remarks have been omitted; the remaining text is complete.

Adequate words are lacking to express the full seriousness of our present situation. It is not just that we are for the moment on a collision course politically with the Soviet Union, and that the process of rational communication between the two governments seems to have broken down completely; it is also—and even more importantly—the fact that the ultimate sanction behind the conflicting policies of these two governments is a type and volume of weaponry which could not possibly be used without utter disaster for us all.

For over 30 years wise and far-seeing people have been warning us about the futility of any war fought with nuclear weapons and about the dangers involved in their cultivation. Some of the first of these voices to be raised were those of great scientists, including outstandingly that of Albert Einstein himself. But there has been no lack of others. Every president of this country, from Dwight Eisenhower to Jimmy Carter, has tried to remind us that there could be no such thing as victory in a war fought with such weapons. So have a great many other eminent persons.

When one looks back today over the history of these warnings, one has the impression that something has now been lost of the sense of urgency, the hopes, and the excitement that initially inspired them, so many years ago. One senses, even on the part of those who today most acutely perceive the problem and are inwardly most exercised about it, a certain discouragement, resignation, perhaps even despair, when it comes to the question of raising the subject again. The danger is so obvious. So much has already been said. What is to be gained by reiteration? What good would it now do?

Look at the record. Over all these years the competition in the development of nuclear weaponry has proceeded steadily, relentlessly, without the faintest regard for all these warning voices. We have gone on piling weapon upon weapon, missile upon missile, new levels of destructiveness upon old ones. We have done this helplessly, almost involuntarily: like the victims of some sort of hypnotism, like men in a dream, like lemmings heading for the sea, like the children of Hamlin marching blindly along behind their Pied Piper. And the result is that today we have achieved, we and the Russians together, in the creation of these devices and their means of delivery, levels of redundancy of such grotesque dimensions as to defy rational understanding.

I say redundancy. I know of no better way to describe it. But actually, the word is too mild. It implies that there could be levels of these weapons that would not be redundant. Personally, I doubt that there could. I question whether these devices are really weapons at all. A true weapon is at best something with which you endeavor to affect the behavior of another society by influencing the minds, the calculations, the intentions, of the men that control it; it is not something with which you destroy indiscriminately the lives, the substance, the hopes, the culture, the civilization, of another people.

What a confession of intellectual poverty it would be—what a bankruptcy of intelligent statesmanship—if we had to admit that such blind, senseless acts of destruction were the

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best use we could make of what we have come to view as the leading elements of our military strength!

To my mind, the nuclear bomb is the most useless weapon ever invented. It can be employed to no rational purpose. It is not even an effective defense against itself. It is only something with which, in a moment of petulance or panic, you commit such fearful acts of destruction as no sane person would ever wish to have upon his conscience.

There are those who will agree, with a sigh, to much of what I have just said, but will point to the need for something called deterrence. This is, of course, a concept which attributes to others—to others who, like ourselves, were born of women, walk on two legs, and love their children, to human beings, in short—the most fiendish and inhuman of tendencies.

But all right: accepting for the sake of argument the profound iniquity of these adversaries, no one could deny, I think, that the present Soviet and American arsenals, presenting over a million times the destructive power of the Hiroshima bomb, are simply fantastically redundant to the purpose in question. If the same relative proportions were to be preserved, something well less than 20 per cent of those stocks would surely suffice for the most sanguine concepts of deterrence, whether as between the two nuclear superpowers or with relation to any of those other governments that have been so ill-advised as to enter upon the nuclear path. Whatever their suspicions of each other, there can be no excuse on the part of these two governments for holding, poised against each other and poised in a sense against the whole northern hemisphere, quantities of these weapons so vastly in excess of any rational and demonstrable requirements.

How have we got ourselves into this dangerous mess?

Let us not confuse the question by blaming it all on our Soviet adversaries. They have, of course, their share of the blame, and not least in their cavalier dismissal of the Baruch Plan so many years ago. They too have made their mistakes; and I should be the last to deny it.

But we must remember that it has been we Americans who, at almost every step of the road, have taken the lead in the development of this sort of weaponry. It was we who first produced and tested such a device; we who were the first to raise its destructiveness to a new level with the hydrogen bomb; we who introduced the multiple warhead; we who have declined every proposal for the renunciation of the principle of "first use"; and we alone, so help us God, who have used the weapon in anger against others, and against tens of thousands of helpless non-combatants at that.

I know that reasons were offered for some of these things. I know that others might have taken this sort of a lead, had we not done so. But let us not, in the face of this record, so lose ourselves in self-righteousness and hypocrisy as to forget our own measure of complicity in creating the situation we face today.

What is it then, if not our own will, and if not the supposed wickedness of our opponents, that has brought us to this pass?

The answer, I think, is clear. It is primarily the inner momentum, the independent momentum, of the weapons race itself—the compulsions that arise and take charge of great powers when they enter upon a competition with each other in the building up of major armaments of any sort.

This is nothing new. I am a diplomatic historian. I see this same phenomenon playing its fateful part in the relations among the great European powers as much as a century ago. I see this competitive buildup of armaments conceived initially as a means to an end but soon becoming the end itself. I see it taking possession of men's imagination and behavior, becoming a force in its own right, detaching itself from the political differences that initially inspired it, and then leading both parties, invariably and inexorably, to the war they no longer know how to avoid.

This is a species of fixation, brewed out of many components. There are fears, resentments, national pride, personal pride. There are misreadings of the adversary's intentions—sometimes even the refusal to consider them at all. There is the tendency of national communities to idealize themselves and to dehumanize the opponent. There is the blinkered, narrow vision of the professional military planner, and his tendency to make war inevitable by assuming its inevitablity.

Tossed together, these components form a powerful brew. They guide the fears and the ambitions of men. They seize the policies of governments and whip them around like trees before the tempest.

Is it possible to break out of this charmed and vicious circle? It is sobering to recognize that no one, at least to my knowledge, has yet done so. But no one, for that matter, has ever been faced with such great catastrophe, such inalterable catastrophe, at the end of the line. Others, in earlier decades, could befuddle themselves with dreams of something called

"victory." We, perhaps fortunately, are denied this seductive prospect. We have to break out of the circle. We have no other choice.

How are we to do it?

I must confess that I see no possibility of doing this by means of discussions along the lines of the negotiations that have been in progress, off and on, over this past decade, under the acronym of SALT. I regret, to be sure, that the most recent SALT agreement has not been ratified. I regret it, because if the benefits to be expected from that agreement were slight, its disadvantages were even slighter; and it had a symbolic value which should not have been so lightly sacrificed.

But I have, I repeat, no illusion that negotiations on the SALT pattern—negotiations, that is, in which each side is obsessed with the chimera of relative advantage and strives only to retain a maximm of the weaponry for itself while putting its opponent to the maximum disadvantage—I have no illusion that such negotiations could ever be adequate to get us out of this hole. They are not a way of escape from the weapons race; they are an integral part of it.

Whoever does not understand that when it comes to nuclear weapons the whole concept of relative advantage is illusory—whoever does not understand that when you are talking about absurd and preposterous quantities of overkill the relative sizes of arsenals have no serious meaning—whoever does not understand that the danger lies not in the possibility that someone else might have more missiles and warheads than we do but in the very existence of these unconscionable quantities of highly poisonous explosives, and their existence, above all, in hands as weak and shaky and undependable as those of ourselves or our adversaries or any other mere human beings: whoever does not understand these things is never going to guide us out of this increasingly dark and menacing forest of bewilderments into which we have all wandered.

I can see no way out of this dilemma other than by a bold and sweeping departure—a departure that would cut surgically through the exaggerated anxieties, the self-engendered nightmares, and the sophisticated mathematics of destruction, in which we have all been entangled over these recent years, and would permit us to move, with courage and decision, to the heart of the problem.

President Reagan recently said, and I think very wisely, that he would "negotiate as long as necessary to reduce the numbers of nuclear weapons to a point where neither side threatens the survival of the other."

Now that is, of course, precisely the thought to which these present observations of mine are addressed. But I wonder whether the negotiations would really have to be at such great length. What I would like to see the President do, after due consultation with the Congress, would be to propose to the Soviet government an immediate across-the-boards reduction by 50 per cent of the nuclear arsenals now being maintained by the two superpowers—a reduction affecting in equal measure all forms of the weapon, strategic, medium-range, and tactical, as well as all means of their delivery—all this to be implemented at once and without further wrangling among the experts, and to be subject to such national means of verification as now lie at the disposal of the two powers.

Whether the balance of reduction would be precisely even—whether it could be construed to favor statistically one side or the other—would not be the question. Once we start thinking that way, we would be back on the same old fateful track that has brought us where we are today. Whatever the precise results of such a reduction, there would still be plenty of overkill left—so much so that if this first operation were successful, I would then like to see a second one put in hand to rid us of at least two thirds of what would be left.

Now I have, of course, no idea of the scientific aspects of such an operation; but I can imagine that serious problems might be presented by the task of removing, and disposing safely of, the radioactive contents of the many thousands of warheads that would have to be dismantled. Should this be the case, I would like to see the President couple his appeal for a 50 per cent reduction with the proposal that there be established a joint Soviet-American scientific committee, under the chairmanship of a distinguished neutral figure, to study jointly and in all humility the problem not only of the safe disposal of these wastes but also the question of how they could be utilized in such a way as to make a positive contribution to human life, either in the two countries themselves or—perhaps preferably—elsewhere. In such a joint scientific venture we might both atone for some of our past follies and lay the foundation for a more constructive relationship.

It will be said: this proposal, whatever its merits, deals with only a part of the problem. This is perfectly true. Behind it there would still lurk the serious political differences that now divide us from the Soviet government. Behind it would still lie the problems recently treated, and still to be treated, in the SALT forum. Behind it would still lie the great

question of the acceptability of war itself, any war, even a conventional one, as a means of solving problems among great industrial powers in this age of high technology.

What has been suggested here would not prejudice the continued treatment of these questions just as they might be treated today, in whatever forums and under whatever safeguards the two powers find necessary. The conflicts and arguments over these questions could all still proceed to the heart's content of all those who view them with such passionate commitment. The stakes would simply be smaller; and that would be a great relief to all of us.

What I have suggested is, of course, only a beginning. But a beginning has to be made somewhere; and if it has to be made, is it not best that it should be made where the dangers are the greatest, and their necessity the least? If a step of this nature could be successfully taken, people might find the heart to tackle with greater confidence and determination the many problems that would still remain.

It will also be argued that there would be risks involved. Possibly so. I do not see them. I do not deny the possibility. But if there are, so what? Is it possible to conceive of any dangers greater than those that lie at the end of the collision course on which we are now embarked? And if not, why choose the greater—why choose, in fact, the greatest—of all risks, in the hopes of avoiding the lesser ones?

We are confronted here, my friends, with two courses. At the end of the one lies hope—faint hope, if you will—uncertain hope, hope surrounded with dangers, if you insist. At the end of the other lies, so far as I am able to see, no hope at all.

Can there be—in the light of our duty not just to ourselves (for we are all going to die sooner or later) but of our duty to our own kind, our duty to the continuity of the generations, our duty to the great experiment of civilized life on this rare and rich and marvelous planet—can there be, in the light of these claims on our loyalty, any question as to which course we should adopt?

In the final week of his life, Albert Einstein signed the last of the collective appeals against the development of nuclear weapons that he was ever to sign. He was dead before it appeared. It was an appeal drafted, I gather, by Bertrand Russell. I had my differences with Russell at the time as I do now in retrospect; but I would like to quote one sentence from the final paragraph of that statement, not only because it was the last one Einstein ever signed, but because it sums up, I think, all that I have to say on the subject. It reads as follows:

> We appeal, as human beings to human beings: Remember your humanity, and forget the rest.

BROOKINGS, S. DAK, *January 25, 1982.*

GENTLEMEN: My name is Richard Barnes. Presently, I am a small businessman in Sioux Falls and recently was elected chairman of the Minnehaha County Democratic Party. I have served two terms in the South Dakota House of Representatives and am in the process of completing my Ph. D. degree at South Dakota State University in Brookings, South Dakota. I am married and the father of two children.

I wish to present this testimony on behalf of the numerous roles that I play in our community. I am a father, a husband, a student, a businessman and am actively involved in our political process.

I am concerned about the importance of arms control and the use and dissemination of nuclear arms throughout the world. There is, perhaps, little that I might add to the volumes of testimony and research conducted by you and your staff members. But as a student of collective behavior—that area that studies social movements and spontaneous social behavior—there are some things that should be shared with members of this committee for your enlightenment.

First of all, there is a growing international concern with the issue of nuclear armaments. The growth of the movement in Europe has been spontaneous along with the growth of similar concerns here in the United States. The movement is associated with neither radical right nor the radical left. There seems to be no political association among those citizens concerned about the nuclear arms race.

But while they seem to be politically neutral, they are united in their understanding of the consequences of nuclear war. While these people may be disorganized and not affiliated with any political organization, they share together in a common knowledge that nuclear arms and the proliferation of nuclear weapons presents them with a common fate.

Secondly, it is interesting to note that factor that motivates those in opposition to nuclear weapons is the same factor that motivated the research and development of nuclear weapons half a century ago: self-preservation.

Man's instinct to survive brought about public support for the development of nuclear weapons and armaments before the public or the scientific community knew and could understand problems with radiation and the deathly by-products of radioactive waste material. But after our experience in the devastation of Japan during World War II, and the increased public awarness of the massive extent that would result from a nuclear war, man's instinct for survival demands that he calls now for a halt to any further nuclear arms buildup, that he calls now for a halt to nuclear proliferation, and that he demands a halt to nuclear weapons altogether.

It is interesting also to note how different generations deal with the threat of nuclear war. My parents struggled during the early '60's with the ethical question of whether to build a fall-out shelter. I can remember the question posed by television dramas as to whether or not you would admit your friends and neighbors to your bomb shelter if there were only enough food and water to allow your family to survive. And as American consumers and television audiences discussed these ethical questions, a growing number was already realizing that if they were to survive a nuclear war and someday emerge from their backyard bomb shelter, their world, as they knew it, would not be there. And that is why the fads of bomb shelters never caught on.

Today's generation is dealing with nuclear armament much differently. They are crying out because they realize what their parents realized all too vividly: that in the case of a nuclear war, there are no winners, only losers; there are no survivors, only victims; that there is no victory, only devastation. The hope for survival that brought about the nuclear arms, is the same hope that calls for their retirement. The same fear that brought nuclear weapons into existence is the same fear that now seeks to have them dismantled.

As a political activist, I would admonish that you not only listen to the voices of the people but that you also listen to their call for sanity, for reason, and for common sense.

RICHARD BARNES.

DECEMBER 29, 1982.

DEAR SENATOR PRESSLER: I would like to express my deep appreciation to you for your initiative in holding these public hearings and for your interest in the opinions of the people you represent concerning this issue. I would also like to submit into the record the following statement:

First of all, I am scared by the possibility of a nuclear war. In fact, I am damned scared. Every time we add a missile to our nuclear arsenal, we perpetrate the arms race and we widen the political divisions that separate the United States and Russia. Every time we deploy a new, technologically superior weapon or defense system, we encourage Russia to do the same.

It is true that Russia has extensively built up its conventional forces in Europe. In order to counter the threat, our American Forces are relying heavily on tactical nuclear weapons. Routine training of American infantry in Europe now includes nuclear retaliatory maneuvers. The neutron bomb is being designed specifically to halt the encroachment of conventional enemy forces. The neutron bomb might perhaps reduce the number of innocent civilians indiscriminately killed in an attack, thus making its use less morally abhorrent than other nuclear weapons. But it would greatly enhance the likelihood of an all-out strategic nuclear war.

Most assuredly, hundreds of millions of people perhaps even billions, would die miserably either from the initial blasts or from wretching radiation sickness and rampant diseases. Can we ever dare to take any action in which the risk of nuclear escalation is inherent? Who has the right to choose and embark upon a course of action which threatens the lives of millions of people?

President Reagan has often expressed his desire for peace and the preservation of democratic freedom. He insists that a strong military is necessary to preserve peace and national security. Apparently Congress agrees—to the tune of $200 billion. Included in the long term defense build-up is:

B–1 Bomber—quantity, 100 planes; estimated cost, $200 million each; payload, 38 megatons (the bomb dropped on Hiroshima killed over 100,000 people and it only had one-fiftieth of a megaton).

Cruise missile—quantity, 10,000; estimated cost, $1 million each; flies at low altitudes and avoids radar detection.

Trident Submarine—estimated cost, $1.1 billion each; payload, 24 Trident I missiles capable of destroying scores of Soviet cities.

MX Missile—estimated cost—$13 million each; payload, 10 independently targetable warheads; easily transported and can avoid Soviet satellite detection due to small size.

I often wonder if our technological advancements have a hair-trigger affect. President Reagan believes that these and other plans for beefing up U.S. defenses will give us a position of strength and make Russia anxious to negotiate arms limitations at the START talks. I *doubt* it. If anything, Russia will again feel an urgent need to keep up. Why must we continually increase the size of our nuclear arsenal when we already have the firepower to completely destroy Russia at least 100 times?

Every one desires peace. Most people support arms limitations, and some people even advocate disarmament. Can Russia or any other hostile nation honestly believe that our efforts toward arms negotiations are sincere when we have just approved the biggest defense budget in the history of mankind?

I strongly advocate a bi-lateral nuclear weapons freeze. Because of the complexity of the problem and the intricacies of diplomatic relations, I suggest that the United States take a verifiable first step toward a nuclear arms freeze. For instance, a three month unilateral moratorium on all nuclear arms testing and weapons deployment could be established. Such an action would demonstrate our good faith without significantly jeopardizing our defense posture. Furthermore, it would instill greater trust in our motives and encourage Russia to participate in productive nuclear weapons limitation and disarmament agreements.

What really scares me is that in 10 years, twenty nations will have nuclear weapons. In just 20 years (I'll only be in my mid-forties) over one hundred nations will have nuclear weapons. We as a nation had better learn how to cope with the nuclear age real soon.

Thank you very much for considering my viewpoints. I'm sure they are shared by thousands of other South Dakotans who have not taken the time or the energy to write.

Sincerely,

ANDY BARNETT,
Registered voter in South Dakota and
Phi Beta Kappa graduate of U.S.D., 1979.

SOUTH DAKOTA CONFERENCE
OF THE UNITED CHURCH OF CHRIST,
Sioux Falls, S. Dak., January 26, 1982.

Senator ALAN CRANSTON,
Senate Office Building,
Washington D.C.

DEAR SENATOR CRANSTON: I am sorry that I was unable to attend the hearings on Nuclear Disarmament which you held yesterday at Augustana College. I wish to add my testimony and agreement to those of Bishop Norman Eitrheim and other religious leaders who raised for you our deep concern about nuclear weaponry. I believe that in a nuclear war everyone would lose; I also believe that there are alternative possibilities for keeping our country secure and protected. I have enclosed a copy of "A Parable" which speaks to my belief in this matter.

Thank you very much for coming to Sioux Falls to hear our testimony and to learn our feelings. I appreciated very much the reports on television and in the newspaper concerning the hearings, since they indicated that you sincerely desired to elicit our views.

My very best wishes to you personally, and thank you again.

Sincerely,

JACK A. BATTEN,
Conference Minister.

Enclosure.

A PARABLE

There once was a family that lived in a large, comfortable house. The house was beautiful, met all their needs for space and shelter, and was the source of great pride to them. They cared for it, had it properly insured, and only grumbled occasionally about the taxes they had to pay on it. Their only real concern was that the neighborhood around them was radically changing; new people, of a different color, who did not or could not care for the houses in which they lived, began to surround them. These other people had much less living space per person in their houses, and began to look with longing at the beautiful house.

The family met to decide what to do. One member said, "Let's build a higher fence around our property". Another snorted, "That's not enough! Let's hire a security service, to patrol our grounds and make sure no one else comes near". And still others wanted to buy guns, or more insurance, or do something to protect their investment.

But still another person said, "We all agree that we must make some changes in the way we have lived in our neighborhood. But there are other possibilities we have not yet considered, by which our home may be made more secure. We could spend the money we otherwise would spend on security systems to help the neighbors fix up their own homes". "Or we could take a few of them into our home, both to relieve their population pressure and to understand them better," cried another person. Still others suggested organizing a stronger community association, by which all could share and work together, or financial help to the neighbors, or work projects.

"But," said the first member, "your ideas might not work; they might still attack us and destroy our home. Don't you love this beautiful house like we do?" "Oh, yes," replied the one who had first stated other choices, "we do indeed love this house, and want to preserve it. But we love the whole neighborhood, too, and don't want to see it destroyed either. The neighborhood that becomes an armed camp runs a high risk of being both spiritually and physically destroyed. Our house has no value in a devastated neighborhood.

Sure, we may be taking a chance by using our resources to reach out to help rather than to build walls; but this way we do have a chance. Following your way is just as likely to bring an end to all we hold dear, because it is not foolproof either. Will you take your chances to build understanding and trust, or to build a false sense of security?"

Many of us feel this way. We love the U.S.A. and want it to be as secure as possible. But we believe its security is not enhanced by more nuclear weapons that will separate and may very well kill us all, but by spending those resources to alleviate the problems of others in the world—feeding, clothing, and helping them make their own decisions freely and not be constraint. In other words, we believe America is made stronger by "taking a chance on the neighbors."—Jack A. Batten

PALO ALTO, CALIF., *February 8, 1982.*

Senator ALAN CRANSTON,
Committee on Foreign Relations,
U.S. Senate, Washington, D.C.

DEAR SENATOR CRANSTON: We are making the build up of nuclear weapons the main reason for our national survival, or the lack of those weapons the cause of our demise.

We have a clear choice as a major power . . . continuing the stockpiling of these weapons because of our fear of a political ideology, or set an honest goal—and an enactment deadline—for multinational world disarmament.

As leaders of the free world and the only nation to have ever used an atom bomb on another nation, we have a moral obligation to take this responsibility NOW.

As a parent I see the young people looking at their future with a fatalistic resignation that the possibility of nuclear war in their lifetime is inevitable. This has a deep, spiritual and psychological effect on their lives.

As members of the most influential body of government in the world, I urge you to promote a commitment by our government to leading the way in the bringing about of world nuclear disarmament.

Sincerely,

PAT DIMOCK.

CATHOLIC CAMPUS PARISH,
SOUTH DAKOTA STATE UNIVERSITY,
Brookings, S. Dak., January 25, 1982.

DEAR SENATOR PRESSLER: We are writing this letter in order to contribute to your hearings on the arms race and nuclear disarmament.

After many thousands of years of history, of struggle, of defeat, of attainment, the human race has at last within its powers the ability to destroy most of the human race, most of what our society and our ancestors have built, and most of anything that reasonably could be called a future.

Now what shall we do?

We can continue a process of supplying ourselves with greater and greater multiples of over-kill. We can continue to be antagonistic, blustering, and unwilling to listen to our opponents. We can watch nuclear arms proliferate to 20 or 30 more countries and thereby totally invalidate the logic of the cold war, which sees two or three super powers bristling with nuclear weapons but afraid to move because of the balance of terror. For when many people can "press the button", what America and Russia do may at last be irrelevant. We can do all these things. Indeed, we seem to be doing them.

Or we can at last recognize that the nuclear threat is so singular and overriding an issue that the success of any other policy, domestic or foreign, depends on our ability to disarm the world.

Arms races, history teaches, almost invariably end in war. The theory that we are protected by great arsenals therefore dooms our race to extinction. Such a theory is worse than evil, if it leads to pulverization. There are no words, no concepts with which to describe such ideas.

We urge you in the name of every human being and every human society that exists or ever will exist to do all in your power to turn our government from its present blind, perhaps well meant, course and let us at long last become the architects of a peaceful future and not of a nuclear holocaust.

Please do not be overcome by short range policy of profit and loss, of saber-rattling patriotism, of loyalties to factions, and disloyalty to the human race.

Thank you for your concern. We hope to be able to thank you for your leadership in this matter. If we do not build a future of peace, who will? If not now, when?

Sincerely,

Rev. CHRISTOPHER DUNPHY, O.P.
Rev. PAUL WIERENGA, O.P.

PREPARED STATEMENT OF DR. RICHARD Y. CHUANG

At present the United States has about 30,000 nuclear warheads, of which 9,000 are intercontinental strategic warheads; in contrast, the Soviet Union has 20,000 and 6,000 respectively. The destructive power of these weapons is esti-

mated at more than one million times that of the Hiroshima bomb. There is no doubt whatsoever that both the United States and the Soviet Union possess the capability of killing the world's population many, many times over. In his testimony before the Senate Foreign Relations Committee, Professor Howard H. Hiatt of the Harvard Medical School stated that if a single one-megaton nuclear bomb hits Washington, D.C., an estimated 600,000 people will be killed and 800,000 more will be seriously injured. Much of the medical facilities and many physicians will also be destroyed or killed, resulting in many of the injured eventually dying. It is also worth noting here that Professor J. Jack Geiger of the City University of New York Medical School testified that if a one-megaton bomb is detonated in Sioux Falls, of her 1970 population of 76,000, 75.000 would be killed immediately and the remaining 1,000 seriously injured. Dr. Geiger also stated that with the same yield, the destructive power of a MIRVed weapon is greater than that of a single warhead. For example, a MIRVed weapon with just a 330 kiloton yield, if it is dispersed into eight or so warheads, can achieve the same destructive results in Sioux Falls as a one-megaton bomb. Thus, the effects of an all-out nuclear war between the United States and the Soviet Union would just be inconceivable. The Soviet leadership and scientists are fully aware of these effects.

Nevertheless, the United States is concerned about the possibility of a Soviet first attack and the advantage that would accrue to the Soviets. While a full-fledged surprise first strike by the Soviet Union will undoubtedly cause severe casualties in and damage to the United States, the capability of the United States to wage a second strike will still exist for three reasons. First, the United States has a very sophisticated early warning system. Many of our offensive missiles can be launched for counterattack before they are hit by the Soviet attack missiles. Second, our triad deployment of missiles—sea, air, and land-based missiles—makes us less vulnerable. Third not all one hundred percent of the Soviet attack missiles can reach the Unted States or the pre-selected targets. As Professor Edward Anderson of the University of Minnesota stated, the reliability of a multistage ICBM can be affected by many things, such as rocket motors, stage-separation mechanisms, electronic circuitry, computers, guidance systems, climatic conditions, and a host of other factors. That things may go wrong even in a non-crisis condition can be best illustrated by the 1981 launching of our shuttle spacecraft which had been postponed several times for technical reasons. Imagine the problems which may arise in the operation of firing thousands of missiles at one time from various locations throughout the Soviet Union. This is not to dismiss the fact that a Soviet first strike will cause severe damage in the United States, but to stress that the United States will still have the capability of waging a counterattack. A full nuclear exchange between the two countries, can guarantee only one thing: both will be destroyed, the attacked perhaps five to ten minutes earlier than the attacker. The fact of the matter is one could destroy the other side but could not prevent one's own destruction. Therefore, a Confucius saying is particularly relevant here: "Do not do to others what you would not like others to do to you." It would be insane for anyone to attempt a first strike.

All statesmen have noble ideals. All advocate international peace and security and all affirm that arms control or disarmament is a means to this end. However, in reality, many practice what is in effect arms race for the purpose of achieving arms control. It is usually contended that one is lagging behind and needs to catch up (and usually, after catching up, one wants to have "superiority," or "margin of safety" or "credible deterrence") and that having a stronger bargaining position makes it easier to negotiate arms reduction with the other side. What often happens is that in the process of catching up or building superiority, the objective of arms control is forgotten. An arms race, once started, has its own inner momentum.

While it is difficult to determine whether the United States is presently superior to the Soviet Union, I am convinced that all things considered, the United States is not inferior to the Soviet Union. Because General David Jones, Chairman of the Joint Chiefs of Staff, is not willing to trade our weapons for the Soviet's, it is reasonable to conclude that we are at least on par with the Soviet Union. It is irrational for us to produce more nuclear arms now in order to control or reduce them later because the Soviet Union will not allow herself to lag behind. Within a short period of time the Soviets certainly will match whatever may be our temporary advantage.

What needs doing immediately is negotiating a freeze on the production of all nuclear weapons, both strategic and tactical, by the United States and the Soviet Union. Then, as a further and more important step, the two sides should consider "fair and equitable" mutual reductions. But what is fair and equitable to one side

may not be considered as such by the other side. In this regard I strongly endorse George Kennan's proposal of a fifty percent across-the-board reduction of all nuclear weapons. Kennan's proposal may appear too simplistic but it has its practical utility. For any arms reduction proposal which does not cover all types of weapons, there will always be disagreements as to which specific weapons should or should not be covered.

Each side will propose decreasing weapons that give the adversary an advantage and excluding those that provide it an advantage. Arms reduction negotiations can be compared to domestic budget cuts: There would be fewer arguments and less resistance if an across-the-board cut is applied than if only certain programs are singled out. Therefore, an arms reduction proposal such as Kennan's, to cover all types of weapons makes sense. Also, the fifty percent reduction figure suggested by Kennan is a reasonable one. Taking into account the current nuclear weapon inventories of the United States and the Soviet Union each side could still maintain a credible deterrence capability after the fifty percent across-the-board reduction. In fact, further reductions should be in order. The fifty percent reduction can be compared to a situation in which a convicted felon is given five death sentences and later two of them are commuted while the other three remain. According to Kennan, not more than twenty percent of the present U.S. and Soviet nuclear arsenal is needed to serve as a deterrent. Military strategists may find many strong arguments against any significant reduction. They may only see the trees but not the forest. The very survival of humanity is in danger. Furthermore, arms control and limitation can enable both countries to shift an enormous amount of resources to improve the welfare of their people. As I mentioned earlier, Dr. Kennan's proposal, as simplistic as it may seem, has its practical value.

During his presidential campaign, Mr. Reagan took a very tough stance on U.S. national defense and foreign policy vis-a-vis the Soviet Union. Today Mr. Reagan continues that stance in the White House. The $180 billion budgeted over the next three years to improve U.S. strategic weapons is a momentous step in that direction. It has impressed people not only in the United States but also all over the world. However, some Americans have criticized the Reagan administration, claiming that it is more interested in building a nuclear war-fighting capacity or in achieving superiority than it is in achieving nuclear deterrence or parity. Some Europeans are also skeptical regarding President Reagan's priorities in arms control. Many of them have expressed the view in the context of the NATO nuclear weapons modernization plan that Europe regards the modernization plan as the price to be paid for arms control but the United States regards arms control as the price to be paid to achieve modernization.

Despite President Reagan's rhetoric and the appearance of toughness on this issue, I do share with Senator Larry Pressler his observation that President Reagan is in a unique position both domestically and internationally to do something really constructive in arms control and reduction. You will recall that former President Nixon, member of the Republican party with a history of a tough stance on Communism, normalized relations with the People's Republic of China, a move that surprised almost everybody. I am therefore looking forward to President Reagan's leadership in providing initiative and achieving a real breakthrough in arms control to a magnitude approximating what Kennan has proposed. I sincerely hope that Senator Pressler's observation will come true.

SIOUX FALLS, S. DAK., *January 25, 1982.*

DEAR PRESIDENT REAGAN: I submit this statement on the occasion of the U.S. Senate's Subcommittee hearing on Arms Control convened in Sioux Falls, S.D. on January 25, 1982, by Senator Larry Pressler.

I am outraged that the elected leaders of my country are steering us down a path of economic and moral bankruptcy in the name of national security. The escalating nuclear arms race is an absurd insanity when the power to destroy civilization as we know it can be unleashed by the push of a button in the United States or the Soviet Union. This is not security; this is absolute insecurity. Furthermore, in the United States we are blessed with the freedom and resources, human and physical, to feed, clothe, house and educate all our people. Instead, we build nuclear weapons and feed the all-consuming fires of inflation which steal from our own people the basic freedoms of life, liberty and the pursuit of happiness.

I am a Christian called by Christ to be a peacemaker. The nuclear arms race is in itself a war which seeks to proclaim a winner by creating an "imbalance of

terror" on the side of the U.S. As in all wars we are focused on hating our enemies and defeating them at all costs. Surely this is insanity for the sought after imbalance of terror has driven our country and the Soviet Union to develop first strike, launch-on-warning nuclear weapons. What is the victory in this war?—To live within minutes of total destruction of civilization as we know it. Neither man nor his creations is infallible. Therefore, for man to have created the means for total destruction means the risk is also total. There is no defense against nuclear war and there are no victories.

The people of the Soviet Union do not want nuclear holocaust nor do any people whatever their national allegiance. People want to live with opportunities to meet their basic needs and with hope in the future for their children and their childrens children. I deplore the stranglehold which our U.S. munitions makers through their lobbyists have in controlling and determining the spending of my tax dollars for nuclear weapons. When no legal recourse is provided for me to withhold my taxes spent for weapons then my religious right of conscience as guaranteed in the 1st Amendment of the U.S. Constitution is being violated.

As a citizen and a Christian I implore you to use your position of leadership in this country and in the world to create peace not the war of a mutually-devastating imbalance of terror. I urge you to begin the peacemaking by freezing the production and deployment of nuclear weapons and then pursuing the negotiations of extensive bilateral agreements with the Soviet Union.

Sincerely,

KATHERINE COLLMAN.

IOWA SOCIALIST PARTY,
Iowa City, Iowa, February 18, 1982.

Senator LARRY PRESSLER,
U.S. Senate Office Bldg.,
Washington, D.C.

DEAR SENATOR PRESSLER: I understand that you are accepting statements in conjunction with your public hearing on arms control in Sioux Falls. Enclosed is a statement which Federal Judge Richard Robinson suggested should be passed on to elected officials in Washington.

Sincerely,

B. R. DOUGLAS.

STATEMENT AT SENTENCING, NOVEMBER 10, 1981

Judge Richard Robinson in the federal court in Omaha on November 10, 1981, sentenced three Iowa peace activists to unsupervised probation and ordered them to pay $323.84 restitution to the Air Force.

Bill Douglas of Iowa City, formerly National Vice-Chairperson of the Socialist Party, USA, and state organizer for the Iowa Socialist Party, and Frank Cordaro and John Hutchens of the Des Moines Catholic Worker Community took part in a civil disobedience action at the SAC base last December 28, repainting the Strategic Air Command's billboard motto to change "Peace is Our Profession" to "War is Our Profession."

In his statement, Cordaro quoted the Old Testament prophet Ezekiel, warning the nation of destruction if it continued to rely on weapons instead of faith.

Hutchens asked for probation so that he could continue his work with the poor at Catholic Worker House.

All three have indicated they will not pay restitution to the Air Force.

We are here today because of a crime. But it is my conviction that we need to define just what is criminal in the situation, and that each one of us as U.S. citizens needs to judge for herself how even greater crimes can be prevented.

I want to say to you quite plainly that the premeditated preparation for the extinction of millions of men, women and children merely because they happen to have been born in a certain country is preparation for the ultimate crime ever imagined by human beings, a crime that dwarfs the attempted genocide committed by those convicted at Nuremberg. And this preparation is precisely what is going on at the Strategic Air Command headquarters, where all of the targeting of U.S. strategic nuclear weapons takes place.

The major question about this crime is, is insanity a defense? Unfortunately I think that the evidence is that the men in control in the nuclear superpowers know quite clearly what they are doing, and are planning the possibility of such destruction because they see the alternative of loss of their power as unacceptable. The system that piles nuclear weapon upon weapon, and overkill upon overkill, may be irrational, but those in charge are responsible for what they are doing.

The logic—or illogic—of the system is most clearly protrayed in the development of the neutron warhead. This weapon shows where the priorities of this countries leaders lie: a device that kills people and leaves property intact.

But the neutron bomb is only a small part of an arsenal that has been designed not for defense, but for a first strike. Presidential Directive 59, issued by President Carter in the summer of 1980, confirms that the U.S. is willing to use nuclear weapons first—as they did in World War II—and that the U.S. is willing to sacrifice the continent of Europe if need be, a possibility that leaves many Europeans less than enthusiastic.

The nuclear superiority enjoyed by the United States has led to other crimes. The U.S. has been able to intervene at will around the world for the last thirty-five years because of its power. The victims of the cirme of Vietnam are still increasing. The Vietnamese people have still not recovered from the destruction wrought in that country, and landmines continue to kill peasants working the land. The brutal government of Pol Pot in Cambodia was possible only because of U.S. destabilizing of that country, and yet the U.S. still continues to maintain that his is the rightful government of Cambodia. And the death toll due to suicide of U.S. veterans in Vietnam now exceeds the death toll of those Americans killed in combat. All of this made possible by U.S. nuclear superiority, and the U.S. government is now incorrigibly repeating its crime in Central America.

The justification for the existence of nuclear weapons is that they are for "defense." Yet SAC was formed before any other country possessed nuclear weapons. And there is no defense against nuclear war; there is retaliation, the creation of more mega-Hiroshimas and the slow deaths of millions more due to radiation poisoning, but there is no defense.

It is in this context that we would like to place our action correcting the sign at SAC. That sign is important because language is important. U.S. nuclear policy depends upon that destruction of language and clear thinking. As E.P. Thompson, the British historian and disarmament activist, put it:

"The deaths of fifteen million fellow citizens ought not to be described as 'disagreeable consequences.' A war confined to Europe ought not to be given the euphemisms 'limited' or 'theater.' The development of more deadly weapons, combined with menacing diplomatic postures and major new political and strategic decisions, ought not to be concealed within the anodyne technological term of 'modernization.' The threat to erase the major cities of Russia and East Europe ought not to trip easily off the tongues as 'unacceptable damage.'"

When we changed the word "peace" to "war", we were attempting to slow the process of Newspeak, as George Orwell termed it in "1984." "War is peace" is the first slogan of Big Brother, in a language that carefully limited the ability to think. The rationale for nuclear weapons and the nuclear arms race depends upon such thought control. Language is crucial for the cause of disarmament because it is all we have—we cannot threaten people, we cannot brainwash them, we can only persuade them.

I am convinced that this hearing is about what we wrote much more than what we did. What would have been the response if we had written "Go Big Red"? Would the base authorities have bulldozed down the sign that same night? Would we originally have been charged with a crime that carries a five-year sentence? I am convinced that it was because what we said was such a fundamental challenge to the thought process of the base that the reaction was one of characteristic overkill.

Are these, then, extenuating circumstances for the charge against me? I think not. There have been circumstances throughout history when the good of society has been in conflict with the law of the state. The conflict goes back at least as Antigone, when she made the distinction between the laws of the state and the laws of nature. This country was founded as a result of such a conflict. As Eugene Debs put it in the anti-war speech for which he was sent to prison earlier in this century, "If it had not been for the men and women who in the past have had the moral courage to go to jail, we would still be in the jungle."

There are times when each of us must choose between the law of the state and the good of society. I believe that the court must choose between the two in sentencing us here today. But I am unwilling to separate myself from what civil disobedience lawyers like to call "common criminals." I believe it is the economic system of this country that leads to weapons like the neutron bomb, because the economic system makes things out of people, and puts property rights above human rights. Such is the tragedy of America, and it is the overcoming of such a contradiction between our democratic ideals and our economic structure that would make peace possible. Any society that wanted to deal seriously with crime would institute a policy of full employment.

So I do not want to separate myself from those the state considers criminals. I am sorry only for not having confronted nuclear terrorism more effectively. I put my trust in the hope that I have been able to reach a few people, for only a strong worldwide movement of people will be able to challenge successfully the policy of nuclear blackmail that has this country and the world held hostage.

Thank you for your time.

AUGUSTANA COLLEGE,
Sioux Falls, S. Dak.

DEAR SIR: We have nothing to lose and every thing to gain from talks on United Nuclear Arms. True losses may be measured not from the talking, but from the agreeing.

I am in favor of talking with the political officials of the U.S.S.R. It is my desire that such talks result in a limiting and eventual abolishment of both our and their nuclear arsenals. It is also my desire that such a result be without a doubt verifiable. Both sides must have the right to on sight inspections on demand. With the ability (by both sides) to conduct surprise inspections, there comes a more secure conclusion that neither side is cheating in on the other.

No agreement should be made that gives anything away for free. No agreement should be made for agreement's sake. The U.S. has in the past yielded to public pressure to get an agreement that gave away U.S. advantages for U.S.S.R. benefits. I desire that any agreement to be made with the U.S.S.R. not be made in haste, but to the benefit of both the U.S. and U.S.S.R. This should be done without regard to public pressure, but to the ends of what is just and right. The final result should not be one side being superior to the other, but rather that both sides have equitable defenses. Defenses without any nuclear arms.

Sincerely,

JOHN FORD, *Student.*

SIOUX FALLS, S. DAK., *January 25, 1982.*

Re Public Hearing/Nuclear Arms Race.
To: SENATOR LARRY PRESSLER.

I am submitting this paper as a written testimony to the feelings I have concerning the nuclear arms race.

I strongly believe that true security is not found in weapons of any sort, but rather through a nonviolent life lived with a strong faith in love and truth. The greatest effects on humankind have been made through people such as Jesus and Gandhi, who lived their lives in continuously striving for truth and love, refusing to accept anything else as being real. It is clear to me that increasing nuclear weapons arsenals is directly contrary to the teachings of Jesus, "the Prince of Peace," and Gandhi, a man who repeatedly fasted and prayed and worked for nonviolence among peoples. Both Jesus and Gandhi adhered to truth and love as a real force promoting resolution—as guideposts towards the kingdom.

I believe that funding massive amounts of money into nuclear weapons as opposed to using this money for funding human needs is mass premeditated murder, a direct path leading to global destruction and nuclear holocaust. Innocent men, women and children, as well as the plants and animals that are essential to our life cycle, would die in a nuclear war. Any chance of a "limited nuclear war" is unrealistic according to anyone familiar with the war/destructive mentality.

I believe that a basic principle of relationships applies on a nation to nation level, as it does on a one to one level. The continuing growth and development of nuclear weapons arsenals does not promote trust or security. There are sane and realistic approaches to promote trust and deter the threat of nuclear war.

I will briefly state some realistic alternatives to channeling money into nuclear arms. The National Peace Academy and the World Peace Tax Fund are good ideas that are becoming more familiar to people and they need our support. There are many organizations and churches dedicated to working for peace, and they need our support and participation. One local example is the South Dakota Peace and Justice Center, currently very active in the nuclear arms freeze proposal.

I think that one phrase can apply very well when arms control is thought about—"Why Pray for Peace, but Pay for War?"

In peace,

BLAIR S. FRANK.

VERMILLION, S. DAK., *January 18, 1982.*

To Arms Control Subcommittee, Senate Foreign Relations Committee:

We join concerned people of all lands in calling for a freeze in the nuclear arms race. The purpose of nuclear weapons is to kill. At this they are terrifyingly proficient. For the first time in mankind's history it is conceivable that most living things could be summarily destroyed and survivors doomed to a sub-human existence and creeping death. Such weapons, stock-piled for our "security," actually destroy all security. The wastes accrued in their manufacture poison the earth for milleniums. The money and resources used in their production deplete our economy and rob our children of food and classrooms.

Let us be realistic. How could democracy survive the chaos of nuclear war? How could a first strike obliterate all possible reprisals without making the air we breathe lethal? What is to bar losers in a limited nuclear war from using the ultimate weapon?

We choose life, not death; sanity, not suicide. Therefore, we urge a nuclear moratorium NOW! We also challenge our nation's leaders to engage in serious and genuine quests for multi-lateral disarmament and alternative methods of dealing with the roots and resolution of conflict.

Respectfully,

ORLANDO J. and VIOLET GOERING.

FIRST LUTHERAN CHURCH,
Sioux Falls, S. Dak., January 25, 1982.

Hon. LARRY PRESSLER,
Convenor, Arms Control Subcommittee/Senate Foreign Relations,
Augustana College, Sioux Falls, S. Dak.

These comments are personal convictions of mine and do not have official sanction of the congregation I serve. They are, however, a reflection of a scriptural, ethical base which presses the urgency of the matter of disarmament strongly upon me.

I begin my statement with two brief disclaimers.

1. The economics of the arms race is not my primary concern. It is a valid consideration to question that money spent on arms which might be used in better ways. However, I disassociate myself from well-meaning people (and those less well-meaning) who use the idea of compassion to channel federal funds into programs which, in fact, have little relationship to helping the poor for whom they presume to speak.

2. I disassociate myself from certain political activists who would use the disarmament question in order to "liberate" the political, economic system of the west, in which they neither believe nor trust. Political ideology is a valid consideration, but it is not my primary concern.

The issue for me is the need for strong, forthright, clear leadership in defusing the intensity of the situation. I call upon my government and the governments of the west to find a dramatic, even a symbolic, way to signal the intent that peace is in fact our goal. As an individual and a Christian, I am prepared to assume some risk, permitting some small opening that is not totally defended, in order that a dramatic gesture might be made, a significant step might be taken, to rally the good and well-meaning forces of the world, including the third world, behind such a goal. As an illustration I believe the President's call for the possibility of zero missile deployment in Europe, if in fact seriously meant, is an example of such a dramatic approach.

I expect that such a call to the governments of the world, specifically to the Soviet Union, would come out of an utterly realistic appraisal of the political situation in which we find ourselves. Political naiveté is not helpful, nor is well-meaning peace talk, which does not take into consideration unintended possible consequences. I set before my government a challenge for a strong, effective leadership evidenced in dramatic ways that will capture the imagination of the world.

Let us be bold in the pursuit of peace.

Rev. DENNIS V. GRIFFIN,
Senior Pastor.

In the name of God and for the sake of all His children, please enlist all creative resources to stop the nuclear arms race now.

MARTY HERST,
S.D. Peace & Justice Center.

STATEMENT FROM SOUTH DAKOTA DEMOCRATIC CHAIRPERSON LOILA HUNKING

Mr. Chairman, as the Chairperson of the South Dakota Democratic Party in South Dakota, it is my pleasure to welcome the Senate Foreign Relation's Subcommittee on Arms Control, Oceans, International Operations, and Environment to South Dakota to hear the concerns people in our state have regarding the very important issue of arms control. Specifically welcoming one of the senior statesmen of our party, the ranking member, Senator Alan Cranston, to our state is indeed an honor.

Through the course of my travels as Chairperson of our Party, I have had the opportunity to interact with the citizens of this state and hear their deep concerns on the issue of arms control.

Mr. Chairman, the people of our state, just as people throughout the country, recognize the need for economy in our government. They recognize the need to trim the "waste and fat" from our domestic programs. Whether it be the farm programs, financial aid to our small communities, finances for education, or assistance to the poor they understand the President's call for economy and want to cooperate within the confines of sensibility.

The people of our state also understand the need for a limited increase in military spending. They understand that some segments of our military budget need improvement.

However, Mr. Chairman, they do have questions about the direction the Administration is taking in the arms area. They ask the question, "Why is throwing money haphazardly at the Defense Department going to solve our defense problem any more than throwing money at our social problems has solved the problems of the poor, the cities, and other segments of our economy?" Mr. Chairman, I can't answer that question. I would hope that you, and the Administration of your party would help answer that question, not only for the people of South Dakota but the nation as well.

They ask this question when they hear Administration proposals still considering the race track MX Missile system, which has the effect of making targets out of people. Apparently, because of internal disagreements within the Pentagon, the most sensible option regarding the MX, that being the Shallow Underwater Missile (SUM) system being advanced by your colleague in the Congress, our Congressman Tom Daschle, has not received the serious consideration from the Administration that it deserves. Putting the MX Missile to sea and making targets out of fish rather than South Dakotans, seems to make more sense to most of us, regardless of Party affiliation.

South Dakotans ask about the sanity of the Reagan Administration's massive arms buildup when they hear the B1 Bomber, whose projected cost is in the neighborhood of $400 million dollars a copy, is predicted to be obsolete within a short time after its deployment, and at the same time are told that people in our armed forces are eligible for welfare assistance.

In a state where adequate water supplies in our cities has been a serious problem, it infuriates them to learn that the $13 billion cost overrun on the Army's heavy tank program (XM–1) could have provided the capital needed to maintain the water supplies in 150 United States cities for the next 20 years, as pointed out in the July 26th, 1981 publication of the New York Times. In that same article, which was written by the distinguished Professor of industrial engineering at Columbia University, Seymour Melman, the cost overrun on the Navy's current submarine, frigate, and destroyer programs which totaled $42 billion could have been used by your state, Senator Cranston, in a 10 year investment to spur solar energy for space-, water-, and industrial-process heating; this would involve 376,000 new jobs and lead to vast fuel savings. Only seven percent of the military outlays from fiscal 1981 to 1986 could rehabilitate the United States' steel industry so that it could once again become the most efficient in the world. One A–6E Intruder (attack plane) estimated to cost $23 million could fund the annual cost of a staff of 200 to plan mutual reversal of the arms race, and conversion of the military economy to a civilian economy.

Mr. Chairman, in conclusion, the most severe problem facing our nation right now is the current recession. It should only be obvious that we evaluate the massive arms buildup called for by the Reagan Administration in light of the impact it will have on our country. A recent Washington defense and military spending think tank revealed that the jobs created per billion dollars spent ranked military spending among the lowest, ranging from 120,496 for daycare, to 70,300 for Mass transit, to 45,000 for the military. These figures cast a shadow on any positive economic benefit the massive Reagan buildup might have realized.

It is incumbent on you, Mr. Chairman, as well as your colleagues on the Committee and in the Senate to impress upon the President the importance of proceeding with caution with his unquestioning commitment to the arms buildup. He must be pressed about the serious economic consequences of his actions.

A Testimony of Deep Concern, January 25, 1982

The human crisis of increasing militarism and especially that of manufacturing and stockpiling nuclear weapons threatens the very basis of human life—physically and spiritually. Already well documented are the reports of the unimaginable physical destruction of cities, homes, and lives of any people involved in a nuclear war. Less clearly seen are the ways which the present military and nuclear policy diseases the very spirit and character of any nation. From a religious and specifically Christian basis, I challenge the basis of this country's military policy. I believe it is immoral, unjust, and insane.

To intend to kill is as morally wrong as to actually kill. To design, produce, and plan to use nuclear weapons which will destroy the lives of thousands of human beings simply because they are ruled by a "feared" Communist government is as morally wrong as Hitler's plan to create a superior race by eliminating "undesirables." Our nuclear weapons can no longer be justified as "defensive" weapons since we have moved to "first strike" capability. The moral and spiritual bankruptcy of our policy is revealed by the fact that while the missiles and warheads of one nuclear submarine can destroy 200 of the largest cities of the Soviet Union, we continue to build and stockpile more nuclear weapons—over 30,000 nuclear weapons. Both the intent to destroy thousands and the overkill demonstrate spiritual and moral sickness or near death. How far we are from the way of peace and love. How close we are to the hell of our hate and fear.

"You have heard that it was said to men of old, 'You shall not kill; and whoever kills shall be liable to judgement.' But I say to you that every one who is angry with his brother shall be liable to judgement; whoever insults his brother shall be liable to the council, and whoever says, 'You fool! shall be liable to the hell of fire." (Matthew 5:21, 22)

The arms race is unjust. To finance increasing militarism and cost intensive high technology of modern weapons, government cuts the programs which help the poor, weak, and uneducated. Adding to the robbery of the people is the inflation caused by billions of dollars being poured down the drain in military systems we pray we never will use. Such a policy deprives our country of the goods and services which return to produce a healthy economy. Instead, the benefit of a few rich and powerful is enhanced by the lucrative military contracts. This policy is robbery because it also causes greater unemployment. Since weapon systems manufacturing require highly skilled labor, the masses lose—for every billion dollars spent on military contracts only 46,000 jobs are created while the same billion dollars would create 58,000 jobs in non-military projects (According to a recent Department of Labor study). To ignore the little person in favor of the big and rich is the Biblical definition of injustice and the downfall of any nation. Attitudes toward the "least" among us determines our spiritual future.

"When the Son of man comes in his glory, and all the angels with him, then he will sit on his glorious throne. Before him will be gathered all the nations, and he will separate them one from another as a shepherd separates the sheep from the goats, and he will place the sheep at his right hand, but the goats at the left . . . Then he will say to those at his left hand, 'Depart from me, you cursed, into eternal fire prepared for the devil and his angels; for I was hungry and you gave me no food, I was thirsty and you gave me no drink, I was a stranger and you did not welcome me, naked and you did not clothe me, sick and in prison and you did not visit me.'

"Then they also will answer, 'Lord, when did we see thee hungry or thirsty or a stranger or naked or sick or in prison, and did not minister to thee?' Then he will

answer them, 'Truly, I say to you, as you did it not to one of the least of these, you did it not to me.' And they will go away into eternal punishment, but the righteous into eternal life." (Matthew 25–31–33, 41–46).

Perhaps an even greater spiritual illness is the despair and darkness at the center of our nuclear policy. To plan, develop, and deploy weapons which could destroy the world twelve times (in terms of firepower alone, not knowing the destruction wrought by radiation) reveals a darkness at the very center of our attitude toward life. The overkill indicates a madness. The hopelessness that "enemies" can never or will never change is to live without faith. To intend to destroy an enemy violates and despairs of any possibility that an enemy can be "redeemed" or made a friend and partner in this small planet. To believe and act that an enemy is unchangeable is to despair in the possibility of good within humankind and the power of God's intended purpose and His gracious and abundant love and forgiveness. To try to destroy those who we fear only reveals that we are controlled by that fear, that we no longer have the freedom to act in creative, and constructive ways. It also reveals that we do not believe in the power of love. We give to the control and dictatorship of fear and hate. To love is to find freedom (even if loving does not return the same response). To love brings liberty. To give into militarism is to live in darkness. It is to be insane.

"Beloved, I am writing you no new commandment, but an old commandment which you had from the beginning; the old commandment is the word which you have heard. Yet I am writing you a new commandment, which is true in him and in you, because the darkness is passing away and the true light is already shining. He who says he is in the light and hates his brother is in the darkness still. He who loves his brother abides in the light, and in it there is no cause for stumbling. But he who hates his brother is in darkness, and does not know where he is going, because the darkness has blinded his eyes." (I John 2:7–11)

J. MELVIN JANZEN,
Sioux Falls, S. Dak.

SIOUX FALLS, S. DAK., *January 30, 1982.*

DEAR LARRY PRESSLER: I attended the arms control hearing at Augustana College in Sioux Falls on January 25. I commend and thank you for scheduling a hearing in South Dakota concerning such an important issue.

During the oral testimony one of the witnesses, Tim Langely, told of he and his wife's decision to refuse to pay a part of their income tax that went for weapons of war.

You expressed that you did not agree with their decision and that it is best to work through legal channels. A couple months ago I wrote to inform you about the World Peace Tax Fund Bill. A bill, S. 880 which would provide a conscientious objector status for taxpayers.

You informed me that the bill is now in the Senate Committee on Finance and that if it comes to the floor you will keep my views in mind.

The bill will not get to the floor without support from Senators such as yourself. I ask you to join Senator Hatfield in cosponsoring the World Peace Tax Fund Bill.

It is very important that people who are opposed to war, such as myself, not to be forced to pay for it.

I am enclosing a brochure which will give you additional information.

Thank you.

Sincerely,

DENNIS LEHMANN.

SIOUX FALLS, S. DAK., *January 30, 1982.*

Dear Senate Subcommittee on Arms Control:

I feel that the U.S. arms race is a waste of natural resources, money and human creativity.

This country's people will not be secure unless a stop to the arms race is begun. We have already destroyed our economy by producing products (weapons) which cannot be eaten or used. They only sit there, get outdated, and we hope and pray they will never be used.

Fear seems to be the motivating factor behind the arms race. I feel it is time we start the cessation of fear and misunderstanding, and begin to realize that our so-called enemies are people like us. People who wish to live in peace. My question is, "Why do governments need to hate each other?"

The arms race is also teaching our youth to hate other people. Yes, hate! Each year millions of young people are involved with the armed forces under the pretense of defending the United States. But they are taught how to use weapons of destruction to destroy other people in the name of patriotism. When they are finished with their stint of duty, they come back to civilian life well taught in the art of solving personal, social and family problems in a violent, coercive method.

The time is now to end the arms race with the Soviet Union. Especially the nuclear arms race with its potential of destroying the world and all that is upon it.

It is time to begin trusting other nations. It is time to start taking unilateral steps in disarmament and seeing whether the Soviet Union will reciprocate.

It is time to start teaching our young people how to solve their problems and misunderstandings with peaceful non-violent methods.

It is time to spend money creating jobs for our unemployed instead of feeding the military industrial complex.

It is time to celebrate life and join hands around the world.

Sincerely,

DENNIS LEHMANN.

PREPARED STATEMENT OF RONALD A. LONG, M.D., F.A.C.S., BROOKINGS, S. DAK.

PROVISION OF MEDICAL CARE IN THE EVENT OF NUCLEAR DISASTER

It is appropriate to address the capabilities of the medical community in coping with a nuclear disaster at a time when the Defense Department has requested the voluntary reservation of hospital beds "for a future major conflict outside the U.S." The D.O.D. plan would involve the limited use of nuclear weapons overseas with the potential of retaliation resulting in nuclear disaster in the continental United States. Hence, the need for discussion regarding the availability and efficacy of medical care; for example, nuclear disaster in South Dakota.

Hypothetical attack on Ellsworth Air Force Base

Ellsworth AFB, located in southwest South Dakota, is Headquarters for the 44th Strategic Missile Wing basing the 28th Bombardment Wing. This wing has about thirty (30) B52 aircraft carrying Short Range Attack Missiles. One hundred fifty Minutemen I.C.B.M.s are deployed in silos located from 51 to 148 miles from Ellsworth. Thus, Ellsworth AFB would be a logical site for a retaliatory strike in the event of "a limited use of nuclear weapons overseas."

Five thousand eight hundred military personnel and 500 civilians are employed at Ellsworth. Forty-six thousand, three hundred people reside in Rapid City which is immediately adjacent to the air base. Rapid City, the only major population center nearby, has a regional hospital and two smaller hospitals (one a Public Health Service and the other a rehabilitation institution.) About 110 physicians reside in Rapid City. The surrounding area is sparsely populated, and there are few small hospitals, none of which are capable of providing major disaster care.

The detonation of a single 20 megaton nuclear weapon centered on Ellsworth AFB would medically incapacitate immediately adjacent Rapid City. The generated blast pressures and fire storm traveling at 250 mph would kill all within a 15–20 mile radius. Those individuals in fallout shelters would expire from heat and suffocation. No medical care could be expected from Rapid City.

Providing immediate care for those surviving at the periphery of this explosion would be difficult. It is unlikely medical care would be available from other military installations in that it is reasonable to assume they would also be targeted by nuclear weapons from a nation reacting in kind to our Presidential Directive 59 (which shifts the primary targeting focus from major population centers to military installations and deployed missile sites.)

The closest civilian medical facilities capable of providing major disaster care are: Casper, Wyoming at 260 miles; Sheridan, Wyoming at 245 miles; Sioux City, Iowa at 425 miles; Sioux Falls, South Dakota at 350 miles; and Bismark, North Dakota at 340 miles.

Immediate care by evacuation would be hampered by the inability to use fixed wing aircraft because of the destruction of appropriate runways. Transportation helicopters possessed by the military sector would likely be destroyed by attacks on other bases. Ground evacuation would be hampered by the destruction of major roadways. Therefore, the majority of individuals surviving the initial detonation, but suffering shock from severe thermal burns and wounds from

flying debris would likely die. People suffering less major wounds not accompanied by major blood loss, those having perhaps 35 percent or less body burns, and those with acute psychiatric illness might survive long enough to reach appropriate medical care.

The administration of on site care would be difficult to carry out by medics wearing garments necessarily cumbersome in order to protect them from radiation exposure. The on site care of the burn wound, the care of lacerations and other skin injuries, and the relatively simple act of starting IV fluids would be difficult in the face of a background of radiation fallout.

Effects of acute radiation exposure

In that the majority of immediate survivors will develop acute radiation sickness a discussion of the effects of radiation is necessary. From a ground burst about 20 percent of the bomb's energy is in fine particles which are carried into the stratosphere with the mushroom cloud. These particles descend over months as global fallout of long lived radioactive isotopes. The remaining 80 percent of short and long lived isotopes descend within moments and continue to descend for 48 hours. The 80 percent local fallout would contaminate an area of 4,000 square miles; an individual at the edge of this area would receive a dose of 450 r.e.m. radiation exposure over 48 hours. This dose will result in a 50 percent mortality rate. Lower levels of exposure would be more likely to kill the young, the old and those with pre-existing diseases. Low levels of 50 to 100 r.e.m. would increase the incidence of solid cancers and leukemias; these levels would also double the spontaneous gene mutation rate.

Individuals accumulating several thousand roentgens would suffer and die from a "central nervous system syndrome" which affects the brain with excitability, incoordination, respiratory distress and intermittent stupor. This effect is particularly noticeable with the neutron bomb.

Exposures of 1,500 roentgens will produce a "gastrointestinal syndrome" before death; the symptoms of vomiting and diarrhea result from death of the intestinal mucosa (inner layer of the bowel.)

Symptoms with lesser doses of radiation include hair loss, delay of wound healing and a lowered resistance to infection. All cellular constituants of blood would be depressed resulting in this diminished resistance to infection with anemia and bleeding occurring from loss of platelets necessary for coagulation. In Japan deaths from infection occurred within three weeks time and deaths from bleeding within six weeks.

In that the aforementioned effects are radiation-dose related and hence irreversable, only basic supportive care can be provided these patients with no hope of changing the eventual outcome!

Delayed effects of radiation exposure

Similarly irreversible are the delayed effects of radiation exposure. Beta particle radiation emitting products of fission will survive in the soil for many months with cummulative dosages accounting for leukemias and other malignant tumors, acceleration of aging, congenital malformations, stillbirths, neonatal deaths, mental retardation, diminished fertility, and ocular cataracts. The developing embryos and fetuses are particularly sensitive to low level doses of radiation. In Japan maternal exposure of only 200 to 300 roentgens resulted in a significant incidence of mental retardation. At Nagasaki all pregnancies within 1.8 miles of hypocenter of the blast and 75 percent of the pregnancies from 1.8 to 11.2 miles of hypocenter spontaneously aborted.

A possibly more significant delayed effect of short and long term radiation would result from the relative resistance of bacteria, viruses and fungi to radiation. This carries the potential for massive epidemics caused by these microbes. The combination of resistant mutations of bacteria with an existing altered resistance to infection by people exposed to radiation has disastrous potential. Though we are currently capable of curing most bacterial infections (even those resulting in epidemics), we might be less effective against bacteria which have undergone mutations and are therefore less sensitive to currently utilized antibiotics.

Thus, it is unlikely that the medical community could favorably affect the outcome from these delayed effects of radiation fallout.

Crisis relocation planning

Crisis relocation as presently outlined by the Federal Emergency Management Agency's "Crisis Relocation Plan," would likely be ineffective if made opera-

tional in anticipation of attack. Estimates suggest the need of three days to prepare host communities and another three days to effect evacuation. Couple this evacuation of a major population center with the interpreted expectation by another nation that we are preparing for war and we have the potential for instigating first strike by the observing nation.

Conclusion

The medical community is ill-prepared to favorably affect the outcome of a nuclear disaster; nor is it apparent that we will be prepared to do so in the foreseeable future.

The only rational approach to take would be to practice the ultimate in preventive medicine, i.e. to espouse the desirability of disarming nuclear weaponry by all nations.

JANUARY 22, 1982.

Senator LARRY PRESSLER,
Washington, D.C.

DEAR SENATOR PRESSLER: Thank you for the invitation to the official U.S. Senate hearing on arms control issues you chaired in Sioux Falls on January 25, 1982. I have called and personally contacted others interested and discovered the interest was so great that limitations had to be put on oral testimony. I would like to add my own therefore in writing.

I as a citizen of South Dakota and of the United States of America consider the issue of arms control, and particularly of nuclear arms control, to be a top-priority concern of utmost urgency for national survival and world order. While our world is being overwhelmed by the most severe human needs for food and shelter and basic development, I cannot accept the expenditure of increasing amounts on the means of destruction, especially on our nuclear arsenal that already has the potential to annihilate our civilization. The undeveloped areas of our world have been paying the price in human suffering for decades due to this misguided allocation of our energies and national output. Now we here in the United States are being asked to pay the same kind of price. We must find the courage to set out on a new course and stick to it through all obstacles. The greatest assurance of peace and national security is not military might but the development of peoples' dignity and economic well-being, here at home and wherever we can make a contribution elsewhere. Our leadership in the world community will be enhanced far more by our commitment to human rights and dignity than by the strong arm of military might. The conscience of the world is increasingly rejecting military domination as a basis for good order, as evidenced by world reaction over Poland, Afghanistan, the Golan Heights, Vietnam, El Salvador, Guatemala, and elsewhere. If military takeover does succeed in the short run, it brings no real peace but leaves people seething and rebellious under its sway. Let us not be as foolish as the Communists and let them suck us into the trap of playing their game. Instead, let us match their guns with our bread, their threats of destruction with our promises of development. It will not be an easy battle for the hearts and minds of the world, as anyone realizes. But our present resorting to increased nuclear buildup is a road to annihilation, self-destructive by its very nature.

I appreciate your entering this testimony of a private citizen into your hearings, I will support any leadership that works seriously toward resolving this complex but urgent issue of arms reduction.

Sincerely,

Rev. DONALD MAROHN,
Catholic Pastor in Hosmer, Roscoe, and Onaka, S. Dak.

WAKONDA, S. DAK., *February 6, 1982.*

DEAR SENATOR PRESSLER: Due to adverse weather and road conditions and automotive mechanical difficulties I was not able to arrive at the January 25, 1982 meeting at Augustana College in Sioux Falls until it had just been concluded. I understand that you are accepting written testimony until February 25th, 1982. Here is what I have to say:

It is past time to move beyond considerations of arms control to a discussion and achievement of actual disarmament. The United States has initiated every new step in the nuclear arms race. Now an entire new generation of weapons systems including the MX-missile, cruise missiles, Trident subs, the neutron

bomb, NAVstar guidance, threaten a new round of escalation as U.S. strategists strive to acheive a first strike capacity. At the very least every effort should be made to implement a FREEZE on the development, testing production and deployment of any new nuclear weapons system as a modest first step towards reversing the nuclear arms race which continues to threaten the survival of all life on the planet.

Sincerely,

STEVE MARSDEN.

P.S.—While the hearings in Sioux Falls were taking place a group of Japanese Buddhist Monks and their supporters were walking in South Dakota on their way from San Francisco to New York in support of the Second UN Special Session on Disarmament which will be held in New York in June and July. I would like to submit for the consideration of the sub-committee two statements by the World Peace March which is a group of people walking across the country to express their concern for disarmament. I would also urge members of the sub-committee to make every effort to support the UN Special Session on Disarmament.

To: The Arms Control Sub-Committee.
From: The World Peace March.
Subject: In support of the United Nations Second Special Session on Disarmament.

In April of 1981 in Tokyo, Japan, the World Assembly of Religious Workers for Nuclear and General Disarmament was held at the invitation of the Most Venerable Nichidatsu Fujii, patriarch of the Nipponzan Myo Hoji order of Japanese Buddhist monks. The Most Venerable Fujii gathered spiritual people from fifty-six countries and all faiths. From this country resistance workers, religious leaders and Native American people were called into dialogue with the international peace community. The main focus of that assembly was the United Nations Second Special Session on Disarmament to be held in June of 1982 in New York.

In response to this focus, Buddhist monks, Native Americans and people of all backgrounds have set off in four directions around the globe in a Walk for Peace, calling on the governments to set the dates for negotiations and enactment of a Comprehensive Program of Disarmament.

Never before in human history has our beautiful Mother Earth and her children been subjected to such imminent threats to their survival. The greatest among these is the growing danger of nuclear war.

We of the World Peace Walk believe the time has come for all races of mankind to rise and address the great danger we all face of being annihilated by nuclear weapons and war.

We of the World Peace Walk believe in the right of this generation's children to live in a truly beautiful world.

We of the World Peace Walk believe in the right of our unborn generations to live in a truly beautiful world.

We of the World Peace Walk believe in the continuance of all life upon our Mother Earth.

We of the World Peace Walk believe that the crisis at hand is of such importance that we have walked across desert, mountains, and great plains in winter months order to tell the people of the danger we all face; and, in order to bring to the people the issue of the survival of humanity, and, to make the appeal to the people to support the United Nations Second Special Session, which will serve to unite the voices of all people together for disarmament.

We appeal to you to support the goal and purpose of the World Peace Walk. We ask for your organization's endorsement for the cause of world peace through disarmament.

We of the World Peace Walk believe and pray that together with all nations we will protect both land and life and hold the world in balance.

In peace.

GENERAL CONFERENCE MENNONITE,
Freeman, S. Dak.

Thank you for the opportunity to attend this committee hearing.

We of the Historic Peace Churches appreciate that our county The United States of America has given us the opportunity to work for peace for the past 65 years.

We encourage anything your committee can do to help bring about a halt to the arms race.

We will also give the same message to our brothers and sisters in the Soviet Union.

We will continue to show love in all our relationships and working in World Relief. We call on our people to live on a standard of simple living.

We encourage the establishment of a Peace Academy or an International Peace Training Center.

ERNEST W. NEUFELD,
Conference Minister.

Re Public Hearing/written testimony on arms control.
To: Senator LARRY PRESSLER:

SIOUX FALLS, S. DAK.

I am submitting this written testimony to voice my concern and protest to the nuclear arms race. My concern is based on religious/moral, economic and survival reasons.

I am a Christian. As a Christian I must witness to the teachings of Jesus Christ. Peace is clearly one of Christ's teachings. Christ actively pursued peace and taught his followers that we are to love our neighbors as well as our enemies. For the love of my neighbors all over the world I cannot consciously support a continual buildup of nuclear arsenal. This does not promote peace but violence. It is violence to every living person and creature. My faith in Christ calls me to be a peacemaker. Therefore I must oppose any weapons that can destroy the peace amongst people.

In the past year our newly elected president, Ronald Reagan has made a budget that consists of enormous budget cuts to social programs and an enormous increase in defense spending. This is economically disastrous. In a time when we are told we must balance the budget, we are putting money into an inflationary industry—the military. Building nuclear weapons is capital-intensive. More jobs are available through a civilian economy than a military economy.

Many people are struggling today because of the budget cuts and lack of jobs. I feel we need to place people before weapons. It is a sociological phenomenon that when people suffer they become less secure, more desperate and as a result crime increases. So all in all our entire country suffers from this economic burden of defense spending. I believe that the only people gaining from this spending are corporations, who handle defense contracts. They are making a huge profit. People must be placed at higher value than profit.

I have recently become a mother. I have a beautiful 4½ month old daughter. I want my daughter to have a future. I do not believe that I can control death but it would be utterly insane to promote it. Building nuclear weapons promotes death. A nuclear war would ultimately destroy every living person, creature and plant. Our earth would be devastated. Every nuclear weapon that our country builds shortens the furture of my daughter. It shortens the future of the entire world. Therefore for future generations, for my daughter, for my daughter's children let us stop the production of nuclear weapons.

ROSEMARY ROHDE.

PALO ALTO, CALIF., *February 8, 1982.*

Senator ALAN CRANSTON,
Committee on Foreign Relations,
U.S. Senate, Washington, D.C.

DEAR SENATOR CRANSTON: We favor a bilateral elimination of all nuclear weapons, in fact—all weapons. We would commit to the peaceful resolution of all conflicts. What a beautiful world that would be.

Elimination of Nuclear arms would be a great first step.

Sincerely,

BOB and KAY SCHAUER.

PREPARED STATEMENT OF MARILYN STOUT

America's excellent foreign policy, indeed, the world's foreign policy was established when all nations signed the United Nations charter. These points were written into the world's political platforms and stated by the world's leaders. You

will find that Presidents Eisenhower and Kennedy covered many of the enclosed points in speeches to the General Assembly of the United Nations Sept. 23, 1960, and Sept. 26, 1961. You can find copies in Presidential papers at your closest university library.

AMERICAN FOREIGN POLICY

1. We insist that all international disputes be settled by discussion and action within the United Nations.
2. We insist on universal membership in the United Nations so that all nations can be represented there to discuss.
3. We should continue to help dependent peoples achieve self-government and independence through the United Nations and its agencies.
4. We Americans should contribute between 2% and 10% (8 to 30 billion dollars) of our annual national income through our national budget to:
   a. help the poor at home through better job training and education.
   b. financial support of United Nations Agencies.
   c. technical assistance through the United Nations to other poor people in the world. Some of this money should be contributions; some low interest loans which must be paid back.
   d. These expenditures should be accompanied by appropriate cuts in the defense budget.
5. Underseas resources of the world (like oil) should be devoted to the support of the United Nations and its agencies.
6. We must facilitate freer trade through long term reciprocal agreements or an International Trade Organization, an agency of the United Nations.
7. International granaries, storing surplus foods for relief, barter, and trade should be kept under the authority of the Food and Agricultural Organization, an agency of the United Nations.
8. We must urge establishment of United Nations title to outer space; and coordinate all outer space experiments through the United Nations.
9. We should make the United Nations Atomic Energy Agency a bank of fissionable material, and should advance peaceful uses of atomic energy through this agency; and prohibit harmful uses.[1]
10. We should increase international cultural exchange and travel. International universities of high standing should be developed under the auspices of the United Nations, and should be placed where they are most needed and wanted.
11. Objective United Nations peace observation teams, and peace keeping forces should volunteer from all nations, and should replace national units. They should wear United Nations uniforms. They should be unarmed, and should not be used to make war. They should enter a dispute only upon invitation and if a cease fire has been obtained.

WHAT WOULD HAPPEN IF THE NATIONS COUPLED IMAGINATION WITH IDEALISM IN THE CONDUCT OF FOREIGN AFFAIRS?

Delegates from the United Kingdom, the Soviet Union, and the United States have initialed a treaty banning nuclear tests in the atmosphere, on earth, and under the sea. It is a good time to ask how many other problems could be cleared up if the nations used imagination and idealism in foreign policy.

Apply our idealism to left-over problems: divided Germany; divided Korea; divided China; disarmament negotiations.

For Germany

1. Let us admit East and West Germany as temporary members to the United Nations without votes. Seat the German delegations next to one another in the General Assembly.

Tell them that they are there to settle the German problem. Lets hope that German delegations, speaking a common language, would become friendly with one another. Hope that U Thant, Adlai Stevenson and Soviet Ambassadors would have a few cocktail parties and dinners to further friendship and cooperation.

2. Let us ask that a fair constitution for a United Germany be drawn up by the two German delegations. This constitution should be submitted to the General Assembly of the United Nations and to the German people for ratification.
3. When the constitution is accepted, let the United Nations supervise free and fair elections for a United Government of Germany. Then let Germany join the United Nations. How soon could this be accomplished?

[1] The question whether there are any peaceful uses of atomic and nuclear energy should be debated thoroughly.

This solution—only one that could be dreamed up and proposed—would have the Germans settling the German problem by peaceful and reasonable means—with help.

For Korea.

The same solution could be effected for North and South Korea.

For China.

The Chinese problem would probably have to be settled in a different way. Communist China could be admitted to the General Assembly of the United Nations. Formosa would remain a member of the General Assembly. The permanent seat on the Security Council could go to the Government of India. India's membership on this peace-keeping and policing council might be welcomed because of lessons India's leaders have taught in achieving progress through non-violent means.

It is appropriate to think about the position of the Chinese government, the East German Government, about a potential non-aggression pact and disarmament.

Disarmament Negotiations

However, the greatest non-aggression pact the world has ever seen—the best substitute for armament—was signed when the United Nations Charter was written. Delegates expressed their people's will that international disputes be settled by discussion and action within the United Nations. The preamble to the charter begins: "We the peoples of the United Nations determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind". This will has been expressed by the heads of the American Government for many generations beginning with Woodrow Wilson in 1918, by Presidents Roosevelt and Truman, by President Dwight David Eisenhower before the United Nations General Assembly on September 22, 1960; and by President John Kennedy on September 25, 1961. The will for peace is being expressed by the Russian people and Chairman Krushchev now.

The will is simply that we insist on settlement of international disputes by discussion and action within the United Nations. Its corollary: We insist on universal membership in the United Nations so that all nations can be there to discuss.

If we expect nations to solve problems by discussion and action through the United Nations—solve problems by peaceful means rather than with guns and bombs, we must provide them peaceful, alternative ways of settling disputes.

Just as scientists use analog computers to test solutions, housewives have analogies. They keep peace among their children. They have textbooks on diplomacy. One good one is New Ways in Discipline by Dorothy Baruch. Children are helped to get their ideas and feelings out. They may draw pictures, make plays, make music. Children can be angry, but they should talk it out. They may not hit, hurt people, or destroy property.

Through the United Nations, the world's people can be taught the same lesson. Art, plays, music, speeches may express a peoples problems or frustrations. Guns and bombs may not be used. Disputes must be talked out.

Anyone who researches the diplomacy preceeding the Korean War will find seeds of war in that diplomacy. About eight times, the United States voted that North Korea could not be represented in the United Nations but that South Korea could be. We were allowing one side in court. In addition, U.N. Commissions on Korea were stacked eight anti-Communist nations for each Communist nation. We did not have to listen or negotiate. We merely out-voted the Communist nations. We denied North Koreans peaceful expression and left ourselves one alternative: WAR. The Korean Truce Commission was selected by Krishna Menon of India and Lester B. Pearson of Canada. It included five neutral nations and ended the war. The peace and unification commission that was to include 16 beligerents with the United States and South Korea on one side; North Korea, Communist China on the other side and exclude India, never met. It was stacked. Problems now in South East Asia result partly from China's not being in the U.N.

It is going to be a hard lesson, perhaps, for some Americans to learn, but if we want nations to use tongues instead of bombs, these nations will have to be admitted to the United Nations.

A start in disarmament negotiations would provide nations other means of expression—through art, language, music. Nations might be permitted to keep

their arms for awhile if weapons give "security", but signatories to the United Nations Charter should be prohibited from using them.

In the above suggestions, all concessions will not be made by the United States. Remember Kennedy's speech to the U.N. General Assembly on September 25, 1961:

"There is no ignoring the fact that the time of self-determination has not yet reached the Communist empire, where a population far far larger than that officially termed "dependent" lives under governments installed by foreign troops intead of free institutions—under a system which knows only one party and one belief—which suppresses free debate, free elections, free newspapers, books and trade unions—and which build a wall to keep truth a stranger and its own citizens prisoners. Let us debate colonialism in full– and apply the principle of free choice and the practice of free plebiscites in every part of the globe."

Substituting more acceptable means of expression—art, music, speeches for guns and bombs in international affairs is a worthwhile principle that could carry nations another step to peace.

We could carry out other ideals expressed by American Presidents Eisenhower and Kennedy:

We could contribute more money to support of United Nations Agencies. We could support more technical assistance through the United Nations. Economic criteria of the U.N. would govern: to receive aid, nations must ask for aid; must have a workable plan; must contribute from their own resources; must benefit the greatest number.

We could facilitate freer trade through an International Trade Organization, an agency of the United Nations.

International granaries storing surplus foods for relief barter and trade should be kept under the authority of the Food and Agriculture Organization.

The United Nations should have title to outer space, and all outer space experiments should be coordinated through the United Nations.

The Atomic Energy Agency should be a bank of fissionable material. Peaceful uses of atomic energy should be advanced through this agency and harmful uses prohibited.

International cultural exchange and travel should increase.

International universities of high standing should be developed with the assistance of the United Nations, and should be placed where they are most needed and wanted.

STATEMENT OF LELAND H. SWENSON, PRESIDENT, SOUTH DAKOTA FARMERS UNION, HURON, S. DAK.

Mr. Chairman, my name is Leland H. Swenson. I am currently president of the South Dakota Farmers Union, our state's largest voluntary family farm and ranch organization. My wife, Ronda, and I reside in Huron, South Dakota along with our three children.

Before I begin my testimony here today, I would like to thank the chairman for scheduling this hearing of the Subcommittee on Arms Control of the Senate Foreign Relations Committee in Sioux Falls, South Dakota. U.S. foreign policy and specifically the subject of arms control is every bit as important to the people of South Dakota as it is to Americans in every other state in this nation. However, I suspect that this may well be the first time that a field hearing of the Foreign Relations Committee has been held in South Dakota.

I welcome the opportunity today to present the views of Farmers Union members on this important issue. Arms control and the over-riding question of war and peace are issues which have concerned Farmers Union members almost from the beginning of our organization eighty years ago. It has been an issue that has been addressed in our official Policy Programs on a regular basis at least since World War II.

The current position of the South Dakota Farmers Union was adopted by more than 350 grassroots farmer and rancher delegates at our most recent state convention on October 25–27, 1981. It reads as follows:

"V. National Security and Foreign Policy

"We believe that the most important way that we, in the United States, can contribute to building the foundations of a permanent world peace is first to make democracy work at home.

"1. Our Responsibility for Waging Peace.

"a. The United Nations continues to be a promising and productive meeting place of nations for developing peaceful solutions to world problems and conflicts between nations. We must recognize the worth of a forum such as the United Nations in present and future conflicts as our nation seeks to preserve peaceful relations between nations.

"b. The United States should demonstrate willingness to use its resources, both physical and material, to combat hunger, privation and exploitation which lead to war. This is a much more desirable means of building a lasting peace than continuing to spend huge sums for armament and expending human life. In this connection, we urge the full use of the World Food Program of the Food and Agriculture Organization and the expanded technical assistance of programs of the United Nations.

"c. The Peace Corps should be restored to its former status when a maximum contribution was being made to extend to developing nations our technological agricultural knowledge and farm "know how."

"We urge continuation and expansion of this program in the interest of humanity and world peace.

"d. Emphasis should be on helping people, ignoring self-serving influences on our policies by government officials or by American business and corporate interest in the country. We should make full use, along with other nations which have an abundance of food, of our opportunity to promote economic development and to help food-deficient nations increase their food production. We urge greater use of the long-term loan authority of the Food for Peace Act.

"When American food and fiber programs are used to support foreign policy their costs should be charged to the State Department rather than to the farm, program."

I have reviewed President Reagan's speech of November 18th, 1981. I wish that I could be encouraged. I would like to believe that our president sincerely desires a dialoge with the Soviets that would lead to a reduction of nuclear armaments in Europe and around the world. Unfortunately, I am faced with the inescapable conclusion that this is not the case. The actions of the current administration speak louder than any one speech ever can.

The fact is that we are headed into a new arms race. The president is proposing staggering increases in military spending over the next few years. This year alone, the spending increase for the Pentagon amounts to twice the entire budget of the Department of Agriculture . . . and that includes the operation of food and nutrition programs—not just pure farm programs.

This is a race that neither the Soviet Union nor the United States can win. It is a race that not only places a daily threat to the very survival of our civilization, it is a race that is directly responsible for multiplying the amount of human suffering around the world. Every dollar that is spent on military hardware by the superpowers is a dollar that cannot be spent to improve the lot of the poor and hungry in the United States, in the Soviet Union and around the world.

It is clearly evident that this new surge in military spending has also had a major impact on American farmers and is indirectly responsible for the fact that the U.S. farm parity level has now declined to the lowest point in 50 years.

Earlier this year while the farm program and other social programs were the victims of David Stockman's budgetary knife, the Pentagon budget was going up by more than $25 billion.

The decision to continue to short-change American agriculture and other domestic needs for the benefit of expanded military spending is extremely shortsighted. It fails to recognize that the health of the American economy is just as important to our survival as the number of planes or tanks or ships or nuclear warheads we may have.

Thank you.

PALO ALTO, CALIF., *February 15, 1982.*

Senator ALAN CRANSTON,
Committee on Foreign Relations, U.S. Senate,
Washington, D.C.

DEAR SENATOR CRANSTON: I am very much opposed to nuclear arms. I would like to see the reduction or elimination of all nuclear arms in the world. Without nuclear arms, there can be no nuclear war.

The arms race must stop. It is not only very expensive, it is also very dangerous. Please do all you can to work toward the reduction or elimination of the arms race and nuclear weapons.

Sincerely,

MARY L. WEIMER.

WOMEN FOR:,
Beverly Hills, Calif., February 1, 1982.

Senator ALAN CRANSTON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR CRANSTON: We hope you agree that the meeting with Women For: on January 18, 1982, was mutually beneficial. We regret that your time was so limited, and we hope to have additional meetings where more substantial exchanges can take place.

We were encouraged by your support for the Bilateral Nuclear Arms Freeze Initiative now being circulated for ballot access in California. We were among the groups of women who first tried to interest our elected officials in such a move. The Nuclear Freeze is Women For:'s highest priority issue.

We were surprised and disappointed that more organizations such as Women For:, who have long been active in the area of arms limitation, were not given the opportunity to testify at the Senate Subcommittee on Arms Control hearings held in Los Angeles January 21, 1982. We did, however, attend the session and submit our written comments, a copy of which we are enclosing in the event such reports are not given to you directly. We believe that women, who suffer the most from the militarization of our economy, should be given the right to testify in a face to face situation where we can expand our views and respond to questions of the Committee.

We believe our elected representatives have a moral obligation as sworn defenders of the Constitution of the United States, to tell the truth to the American public. We think that you, in particular, have a unique opportunity to educate the country to the colossal folly of the nuclear arms race. As a respected member of the Senate, with four safe years to go on your present term, you can take the lead not only in calling for an end to the nuclear arms race, but in educating the public to the fullest extent about the dangers inherent in our present national policies. You have the political background, the historical perspective, the intelligence and the ability to communicate effectively.

Americans should know that the United States is just as much of a threat to world stability as the Soviet Union or any other nation that seeks supremacy by force of arms.

Americans must be told that there is no defense against a nuclear attack anywhere in the world and that Mr. Reagan's plan to spend billions of our dollars for a "civilian defense" is a hoax of unprecedented proportions.

Frankly, unless the Democratic leadership recognizes the need to turn this country away from senseless military spending and toward developing a sound, equitable peacetime economy, it no longer can count on those of who have been lifelong Democrats to support the party's candidates at any level of government. Voting the lesser of two evils is obviously not good enough for the 45 percent of registered Democrats who refuse to vote at all in the last election.

We write to you as friends who believe you can make a difference. We hope you will not be side-tracked into a costly, time consuming bid for the presidency at this time. We believe you can position yourself better for that job, when and if the opportunity presents itself, by being a strong courageous, innovative Senate leader of the opposition to our present disastrous foreign policy.

We are enclosing copies of several articles which have impressed our members and which, in your busy schedule, you may have missed.

We look forward to hearing your response to our concerns at your earliest convenience.

Sincerely,

MARILYN KIZZIAH,
Coordinator.

STATEMENT BY THE INSTITUTE FOR THE STUDY OF LABOR AND ECONOMIC CRISIS, SAN FRANCISCO, CALIF.

Members of the Foreign Relations Committee, my name is Thomas Bodenheimer. I am a practicing physician in San Francisco and a staff member of the Institute for the Study of Labor and Economic Crisis. I wish to speak about the urgent need for disarmament. When I say disarmament, I mean first of all the need to rapidly negotiate a disarmament treaty that eventually leads to a ban on all nuclear weapons. Second, by disarmament I mean a major reduction in the U.S. military budget. The rapidly rising military budget is armament—the

opposite of disarmament. To seriously advocate disarmament—to take the first step in disarmament—must include a reduction in the military budget.

I wish to speak first about the effects on the people and economy of the United States of the ballooning military budget, and its accompanying budget cutbacks in human services. The major effect is on jobs. Military spending creates less than half as many jobs as spending in the area of education. Whereas $1 billion in military spending creates 75,510 jobs, $1 billion spent on mass transit creates 92,071 jobs, $1 billion on construction creates 100,072 jobs, $1 billion on health care creates 138,939 jobs, and $1 billion spent on education creates 187,299 jobs. In addition, many jobs created in the military sector go to highly skilled technicians, engineers and managers who do not suffer a high unemployment rate. People in the greatest need of jobs such as trade, industrial and service workers will be largely bypassed by the military boom. Also, new military jobs are generally available only in highly selective geographical areas, often not in areas where unemployment rates are highest. Finally, military spending has a particularly devastating effect on the employment of black people; for every $1 billion rise in the military budget, 1,300 jobs are lost for blacks.

Another economic problem worsened by military spending is inflation. Military spending is particularly inflationary because it increases available money to spend and at the same time can create shortages of goods because the military competes for goods needed in the civilian economy. Such conditions of shortages are ideal conditions under which corporations can raise their prices, and they do. As one example, it was estimated that under the original plan for the MX missile, 40 percent of the country's entire cement production for 3 years would have to be used to build the MX missile base. This would greatly drive up the price of cement in the civilian construction industry and thereby drive up prices in the entire housing sector.

I wish to make one further point regarding the military and the economy. In the 1960's, during Vietnam, the priority of military research and development contributed to the inability of the civilian economy to increase productivity which led our economy to fall behind Japan and Western Europe in international competition. Similarly, some economists now predict that the enormous expansion of the military sector will keep productivity low and give Western Europe and Japan clear advantages in their competition with U.S. industry. In a study of Europe, Japan and the United States, it was found that as military expenditures increase as a percent of the gross national product, the rate of growth of manufacturing productivity decreases. The military competes with the civilian economy for materials, skilled personnel and for capital. According to Wassily Leontief, Nobel Prize-winning economist at Harvard University, "If handled improperly, these huge jumps in military spending will mean higher inflation, a worsening balance of payments gap, a drain on productive investment, soaring interest rates, increasing taxes, a debased currency, and in the longer run, more unemployment."

Besides the effects of the military budget on the economy, there is another major area, often ignored or hidden, that requires an immediate disarmament program. This is the area of nuclear weapons storage and deployment within the United States. The nuclear holocaust could come from war, but it might more likely come from a devastating nuclear accident in our own backyards. The United States has over 30,000 nuclear weapons in its arsenal, which are stored all over the country. Many are located close to large cities; several are near active earthquake faults. Under public pressure, the Pentagon has admitted to 32 nuclear weapons accidents, including the following:

The explosion of a missile in Arkansas;

The plane crash in Greenland in which 4 nuclear weapons were destroyed by fire;

The collison of planes over Spain with the detonation of weapons and extensive contamination;

A plane catching on fire in Ohio; and the burning of nuclear weapons components;

The crash of a plane in Indiana and the burning of 5 nuclear weapons;

The explosion of components of nuclear weapons in Texas;

A plane crash involving nuclear weapons in California;

Similar episodes in North Carolina, New Jersey, Kentucky, Louisiana and Georgia.

This is only the beginning. According to Retired Admiral Gene LaRoque: "We can expect to have a nuclear weapons accident of a very serious nature in the not too distant future."

Members of the Foreign Relations Committee, we hope you will strongly support this broad concept of disarmament—including international negotiations, the reduction of the military budget, and the prevention of domestic nuclear catastrophe—and make true disarmament a reality for the American people.

MENLO PARK, CALIF., *April 6, 1982.*

Hon. ALAN CRANSTON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR CRANSTON: I am writing this letter of public testimony on the subject of nuclear weapons. I am a member of the Physicians for Social Responsibility, and the Bulletin of the Atomic Scientists. I am fervently opposed to the continued design, development and deployment of nuclear weapons; a course which I feel is expensive, unnecessary and extremely dangerous.

I am sure that you are receiving many letters, so I shall be brief. The essence of nuclear stability is M.A.D. (mutually assured destruction) where no one would launch a nuclear war because the resulting damage to ones own country would be unacceptable. We are at such a stage now. Our trident missiles alone, contrary to what our president declares on national television, are both invulnerable and capable of deterring the Soviets. We are at a state of rough parity, and the atmosphere is right for serious arms reduction talks. Increased escalation, as planned by the Reagan administration, are detrimental to such talks, and could lead to disaster.

If we go ahead with the proposed buildup we will have a first strike capability. This would make the Soviets nervous, causing the stability of the situation to deteriorate. Moreover, weapons that defy detection, such as the Cruise Missile, could make realistic arms control impossible. If we do not consider disarmament the final solution, and act accordingly now, the final outcome of our situation may be disastrous for the human race.

I ask you that you do all in your power to prevent such an occurrence, for the sake of humanity.

Thank you,

KEVIN CLIFFORD.

NATIONAL ASSOCIATION OF SOCIAL WORKERS, INC.,
Millbrae, Calif., February 26, 1982.

Hon. LARRY PRESSLER,
Chairman, Arms Control Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR PRESSLER: Having missed the opportunity to present a statement at your Committee's San Francisco hearing on January 20, 1982, we are grateful that the record was held open to permit our testimony to be heard for the record.

The National Association of Social Workers, through its Committee on Peace and Social Welfare, is committed to the following social policy:

To advocate for adequate allocation of public/private financing for health and income maintenance, with recognition of the proper responsibility at every level of government, and to work toward reduction in military expenditures; to work to prevent cutbacks in human service programs in local, state, and federal government budgets.

Over the past decade we have participated with other organizations to achieve our goals. We are affiliated nationally with the Coalition for a New Foreign and Military Policy; locally, we are a sponsor of the Californians for a Bilateral Nuclear Weapons Freeze.

We view with alarm our government's apparent abandonment of the people in need of health and human services to further the arms race around the world. We favor a vote against all further funding of military hardware, including the B–1 bomber. We are in disagreement with this administration's arms policy as a means of securing the world's survival. We believe that civilizations are most threatened from within by people whose lives are endangered as they cling to survival on the ragged edge of poverty. "Butter, not guns" is an oversimplification of our position. Armaments serve the purpose of polarization when it is communi-

cation and interaction in human affairs that produces mutual understanding and resolution of conflict.

We support and would proceed with:

1. Bilateral nuclear disarmament;
2. Salt II;
3. Economic not military aid to developing nations;
4. Attention to the dangers of stored nuclear weapons and nuclear waste materials;
5. Domestic conversion projects;
6. Worldwide peacekeeping efforts by the United Nations;
7. Educational programs to promote peace and disarmament, and non-violent resolution of conflicts;
8. Reinstatement of health and human services which have been cut or proposed for cuts in the federal budget.

We submit the foregoing view in the fervent hope that it will assist the country and your committee in particular in its search for alternatives to the frightening rise in war making activity.

Sincerely,

JAMES M. KARLS, ACSW,
President, NASW, California Chapter.

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